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**U.S. ARMY ENVIRONMENTAL CENTER**

**FORT HOLABIRD  
DEFENSE INVESTIGATIVE SERVICE (DIS)**

**BASE REALIGNMENT AND CLOSURE  
(BRAC) CLEANUP PLAN**

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**VERSION I**

**Final Document**

**April 1998**

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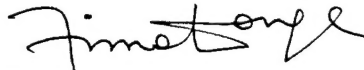
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**FORT HOLABIRD DIS  
BASE REALIGNMENT AND CLOAURE (BRAC) CLEANUP PLAN  
VERSION I**

**FINAL DOCUMENT**



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## LIST OF ACRONYMS AND ABBREVIATIONS

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AC .....	Air Conditioning
ACM .....	Asbestos-containing material
AJCC .....	Alternate Joint Communications Center
AR .....	Army Regulation
ARAR .....	Applicable or Relevant and Appropriate Requirement
AREE .....	Area Requiring Environmental Evaluation
AST .....	Above-ground Storage Tank
BCP .....	BRAC Closure Plan
BCT .....	BRAC Cleanup Team
BEC .....	BRAC Environmental Coordinator
Bldg .....	Building
BRAC .....	Base Realignment and Closure
CCl <sub>3</sub> F .....	Trichlorofluoromethane
CEMML .....	Center for Ecological Management of Military Lands
CERCLA .....	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA .....	Community Environmental Response Facilitation Act
CFR .....	Code of Federal Regulations
CMS .....	Corrective Measures Study
CRP .....	Community Relations Plan
CWA .....	Clean Water Act
DD .....	Decision Document
DEH .....	Directorate of Engineering and Housing
DIS .....	Defense Investigative Service
DoD .....	Department of Defense
DOT .....	Department of Transportation
DPW .....	Department of Public Works
DQO .....	Data Quality Objectives
DRMO .....	Defense Reutilization and Marketing Office
EA .....	Environmental Assessment
EBS .....	Environmental Baseline Survey
ECAS .....	Environmental Compliance Assessment System
EDC .....	Economic Development Commission
EIS .....	Environmental Impact Statement
EMD .....	Environmental Management Division
EMO .....	Environmental Management Office
FFA .....	Federal Facility Agreement
FLAB .....	Floristics Laboratory
FRP .....	Fiberglass reinforced plastic
FFS .....	Focused Feasibility Study
FS .....	Feasibility Study
FY .....	Fiscal Year
Gpm .....	gallons per minute
HCFC .....	Hydrochlorofluorocarbon
IPR .....	In Process Review
IRA .....	Interim Remedial Action
IRDMIS .....	Installation Restoration Data Management Information System
IRP .....	Installation Restoration Program
ISA .....	Initial Screening of Alternatives
ISEC-CONUS ..	Information Systems Engineering Command - Continental United States
LBP .....	Lead-based Paint
lbs .....	pounds
LRA .....	Local Redevelopment Authority
LTM .....	Long-Term Monitoring
MBTU .....	Mega British Thermal Unit

MDE .....	Maryland Department of the Environment
MITC .....	Military Intelligence Training Center
MSA .....	Material Storage Area
msl .....	mean sea level
MSW .....	Municipal Solid Waste
NA .....	Not Available
N/A .....	Not Applicable
NCO .....	Non-commissioned officer
NCP .....	National Oil and Hazardous Substance Pollution Contingency Plan
NEPA .....	National Environmental Policy Act
NFA .....	No Further Action
NFRAP .....	No Further Response Action Planned
NMCC .....	National Military Command Center
NPDES .....	National Pollutant Discharge Elimination System
NRC .....	Nuclear Regulatory Commission
O&M .....	Operations and Maintenance
OSHA .....	Occupational Safety and Health Administration
OU .....	Operable Unit
PA .....	Preliminary Assessment
PAH .....	Polycyclic Aromatic Hydrocarbon
PCB .....	Polychlorinated Biphenyl
PP .....	Proposed Plan
PWP .....	Project Work Plan
PX .....	Post Exchange
RA .....	Remedial Action
RAB .....	Restoration Advisory Board
RCRA .....	Resource Conservation and Recovery Act
RD .....	Remedial Design
RFI .....	RCRA Facility Investigation
RI .....	Remedial Investigation
ROD .....	Record of Decision
SAP .....	Sampling and Analysis Plan
SAR .....	Sampling and Analysis Recommendation
SARA .....	Superfund Amendments and Reauthorization Act
SWMU .....	Solid Waste Management Unit
TBA .....	To Be Arranged
TBD .....	To Be Determined
TRC .....	Technical Review Committee
TSCA .....	Toxic Substances Control Act
TSDF .....	Treatment, Storage, and Disposal Facility
U.S. ....	United States
USACE .....	U.S. Army Corps of Engineers
USACHPPM .....	U.S. Army Center for Health Promotion and Preventative Medicine
USAEC .....	U.S. Army Environmental Center
USAEHA .....	U.S. Army Environmental Hygiene Agency
USAISC .....	U.S. Army Information Systems Command
USEPA .....	U.S. Environmental Protection Agency
USSCS .....	U.S. Soil Conservation Service
UST .....	Underground Storage Tank
UXO .....	Unexploded Ordnance
WWI .....	World War I
WWII .....	World War II

## 1.0 INTRODUCTION AND SUMMARY

Fort Holabird Defense Investigative Service (DIS) is a United States (U.S.) Army organization formerly located on 7.92 acres in the Fort Holabird Industrial Park within the corporate limits of Baltimore City, Maryland (MD). Fort Holabird DIS relocated operations to a new site in Linthicum, MD in July 1996. Fort Holabird DIS performed clearances for the Department of Defense (DoD) and other government entities. Fort Holabird DIS was approved for realignment under the Baseline Realignment and Closure Act of 1995 (BRAC 95). Figure 1-1 shows the general location of the site. The official realignment date for Fort Holabird DIS is in October 1998.

The purpose of this BRAC Cleanup Plan (BCP) is to: 1) summarize the current status of the Fort Holabird DIS environmental restoration and associated environmental compliance programs; 2) present the status of the Fort Holabird DIS disposal and reuse plan; and 3) present a comprehensive strategy for implementing response actions in support of installation realignment, necessary to protect human health and the environment. The strategy integrates activities performed under both the environmental restoration program and the associated environmental compliance programs to support full restoration of the facility. The BCP is a dynamic document designed to be updated regularly to incorporate newly obtained information and to reflect the completion or change in status of any remedial actions (RAs). This Version I BCP for Fort Holabird DIS was prepared with information available as of April 1998.

The BCP is a planning document. Information, schedules, and RAs presented in this BCP do not necessarily reflect those that have been or will be approved by the U.S. Army or Federal and State regulatory agencies. It was necessary to make certain assumptions and interpretations to develop this document. As additional information becomes available, implementation programs and cost estimates could be dramatically altered. Such changes would then be reflected in future updates to the BCP.

### 1.1 BCP ORGANIZATION

The BCP is organized into seven sections:

- Section 1 – Introduction and Summary: describes the objectives of the environmental restoration program, explains the purpose of the BCP, introduces the Project Team formed to manage the program, and provides a brief history of the installation.
- Section 2 – Property Disposal and Reuse Plan: summarizes the current status of the Fort Holabird DIS property disposal planning process and describes the relationship of the disposal process with other environmental programs.
- Section 3 – Installation-Wide Environmental Program Status: summarizes the current status and past history of the Fort Holabird DIS environmental restoration program, associated environmental compliance programs, community relations activities, and the environmental condition of the installation property.
- Section 4 – Installation-Wide Strategy for Environmental Restoration: describes the installation-wide strategy for environmental restoration, including the strategies for dealing with each area requiring environmental evaluation (AREE) on the installation. This chapter also includes plans for managing underground tanks via the underground storage tank (UST) program, and summarizes plans for managing responses under other compliance programs.
- Section 5 – Environmental Program Master Schedules: provides master schedules of planned and anticipated activities to be performed throughout the duration of the environmental restoration program, and summarizes plans for managing responses under other compliance programs.
- Section 6 – Technical and Other Issues to be Resolved: describes specific technical and/or other issues to be resolved and presents a strategy for resolving these issues.
- Section 7 – References: provides a list of the references utilized in the preparation of the BCP.

In addition to the main text, the following appendices are included in this document:

- Appendix A – Fiscal Year Funding Requirements/Costs: Tables presenting projected funding requirements, as well as a summary table of past costs for the environmental restoration program;
- Appendix B – Installation Environmental Restoration Documents Summary Tables: Listing of previous environmental restoration program deliverables by program and by site, as well as technical documents and data loading summaries;
- Appendix C – Decision Documents/ROD Summaries: Summaries of decision documents (DDs) for which an RA was selected;
- Appendix D – NFRAP Summaries: Summaries of each DD for each AREE for which a no further response action planned (NFRAP) decision has been made;
- Appendix E – Conceptual Model Data: Working conceptual models for AREEs; and
- Appendix F – Ancillary BCP Materials: Other ancillary materials relevant to the BCP.

## 1.2 ENVIRONMENTAL RESPONSE OBJECTIVES

The objectives of the base closure environmental restoration program at Fort Holabird DIS are as follows:

- Protect human health and the environment;
- Strive to meet reuse goals established by the U.S. Army and the community;
- Comply with existing statutes and regulations;
- Conduct all environmental restoration activities in a manner consistent with Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA);
- Meet Federal Facility Agreement (FFA) deadlines as detailed in Chapter 5 of this BCP;
- Conduct an Environmental Baseline Survey (EBS) and prepare a Community Environmental Response Facilitation Act (CERFA) Letter Report;
- Continue efforts to identify all potentially contaminated areas;
- Incorporate any new sites into the FFA as appropriate;
- Establish priorities for environmental restoration and restoration-related compliance activities (so that property disposal and reuse goals can be met);
- Initiate selected removal actions to control, eliminate, or reduce the risks to manageable levels;
- Identify and map the environmental condition of the installation property, concurrent with remedial investigation (RI) efforts; consider future land use when characterizing risks associated with releases of hazardous substances, pollutants, contaminants, or hazardous wastes;
- Identify and map areas suitable for transfer by deed and areas unsuitable for transfer by deed;
- Complete investigations as soon as practicable for each AREE in an order of priority which takes into account both environmental concerns and redevelopment plans;
- Develop, screen, and select RAs that reduce risks in a manner consistent with statutory requirements;
- Commence RAs for (1) environmental and (2) property disposal and reuse priority areas as soon as practicable;

- Advise the real estate arm of the U.S. Army Corps of Engineers (USACE) of properties that are deemed suitable for transfer and properties that are not suitable for transfer because they are either not properly evaluated or pose an unacceptable human health or environmental risk;
- Conduct long-term RAs for groundwater and any necessary 5-year reviews for wastes left on site; and
- Establish interim and long-term monitoring (LTM) plans for RAs as appropriate.

### 1.3 BCP PURPOSE, UPDATES, AND DISTRIBUTION

This BCP presents, in summary fashion, the status of Fort Holabird DIS's environmental restoration and compliance programs and the comprehensive strategy for environmental restoration and restoration-related compliance activities. It lays out the response action approach at the installation in support of installation closure. In addition, it defines the status of efforts to resolve technical issues so that continued progress and implementation of scheduled activities can occur. The Fort Holabird DIS BCP Strategy and Schedule herein are designed to streamline and expedite the necessary response actions associated with the properties within Fort Holabird DIS in order to facilitate the earliest possible disposal and reuse of the property. Risk assessment protocols will incorporate future land use in exposure scenarios.

This BCP will be updated annually, or more frequently if determined to be necessary. Updates of the BCP will be distributed to each member of the Fort Holabird DIS BRAC Project Team and to additional individuals identified in Table 1-1.

**Table 1-1. Fort Holabird DIS BIS Distribution List**

Name	Title	Address
Sara Gracey	BRAC Environmental Coordinator (BEC)	Fort George G. Meade Directorate of Public Works ATTN: ANME-PWE Fort Meade, MD 20755-5115
Drew Lausch	Project Manager	USEPA (3HW50) 841 Chestnut Building Philadelphia, PA 19107
Kim Lemaster	Project Manager	Maryland Department of the Environment (MDE) 2500 Broening Highway Baltimore, MD 21224
Glen S. Boldt	Project Manager	USAEC (SFIM-AEC-RPO) Building E4480, Edgewood Area Aberdeen Proving Ground, MD 21010
Kelly Koontz	Project Manager	U.S. Army Engineer District, Baltimore ATTN: CEMAB-PP-E PO Box 1715 Baltimore, MD 21203-1715
Charlotte Rodriguez	BRAC Program Coordinator	U.S. Military District of Washington Fort Leslie J. McNair ATTN: ANEN-ES, Building 42 Washington, D.C. 20319-5050

### 1.4 BRAC CLEANUP TEAM/PROJECT TEAM

The Fort Holabird DIS BRAC Cleanup Team (BCT) is comprised of three members: the BRAC Environmental Coordinator (BEC), a representative from the U.S. Environmental Protection Agency

(USEPA) Region III, and a representative from the Maryland Department of the Environment (MDE). The BCT is led by the BEC. The BCT is responsible for the management of the BCP process and the preparation of this BCP. Additionally, the BCT members will serve as the decision makers for the efforts of the Project Team.

The Project Team consists of the BCT and additional individuals whom the BCT selects to assist in the environmental restoration process at Fort Holabird DIS. The Project Team is also led by the BEC. Project Team meetings are the means of conducting periodic program reviews and reaching consensus on decisions with Federal and State regulators. The BCT members and their roles regarding this project are presented in Table 1-2.

**Table 1-2. Current BCT and Project Team Members**

Name	Title	Organization	Phone	Role/Responsibility
Sara Gracey	BRAC Environmental Coordinator (BEC)	ANME-PWE	(301) 677 9854	Project Management and Oversight
Drew Lausch	Project Manager	USEPA, Region III	(215) 566 3203	Project Oversight
Kim Lemaster	Project Manager	MDE	(410) 631 3440	Project Oversight
<b>OTHER KEY PARTICIPANTS</b>				
Kelly Koontz	Project Manager	USACE	(410) 962 6802	Contract Management and Oversight
Glen S. Boldt	Project Manager	USAEC	(410) 671 1611	Contract Management and Oversight
<b>CONTRACTORS</b>				
Timothy Longe	Project Manager	ICF Kaiser Engineers	(410) 612 6368 Fax: (410) 612 6351	Technical Support EBS and BCP

## 1.5 INSTALLATION DESCRIPTION AND HISTORY

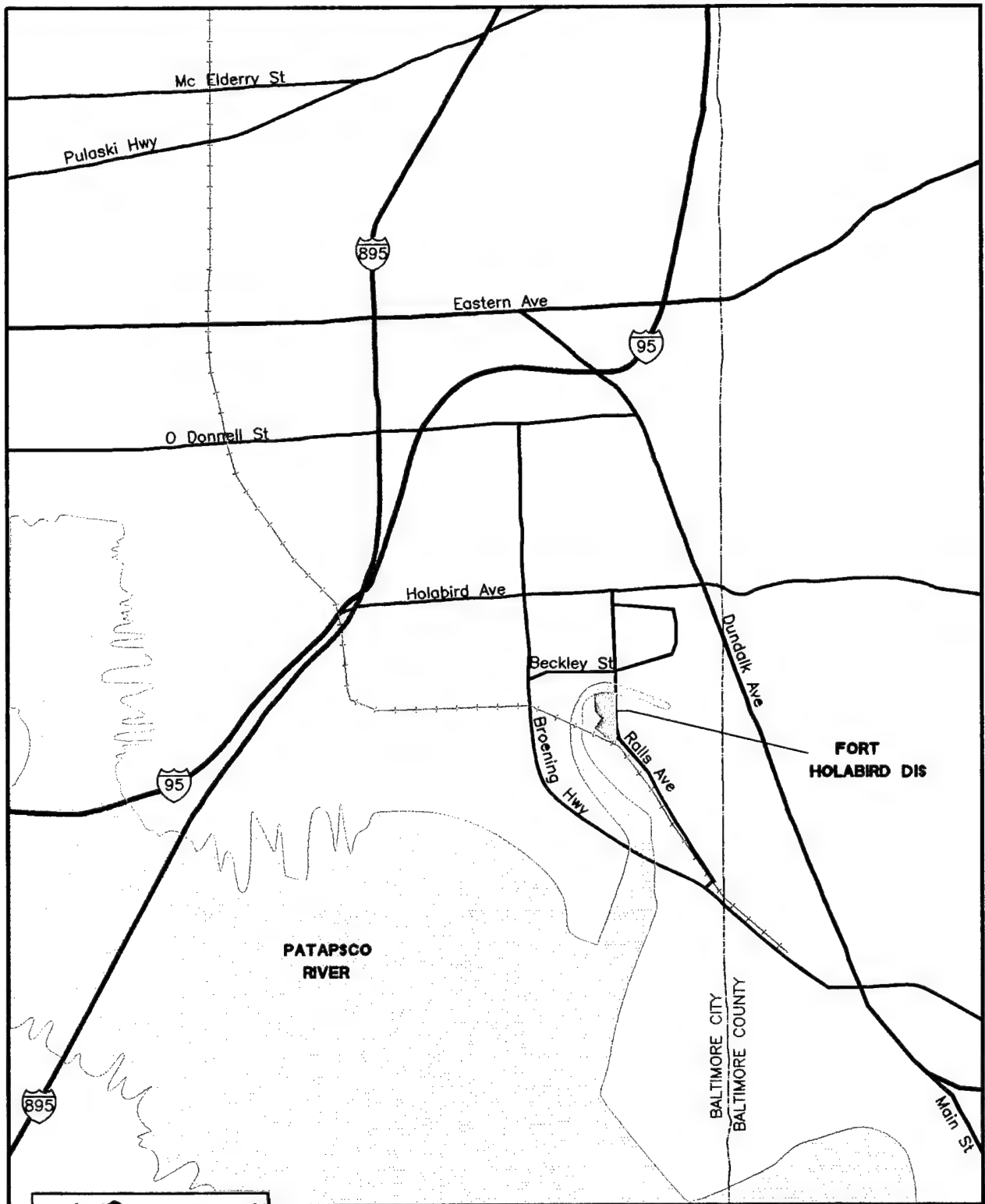
This section presents a general description of the Fort Holabird DIS property and its surrounding area. The location and history of the installation are presented along with a description of the activities which operated on the facility.

### 1.5.1 General Property Description

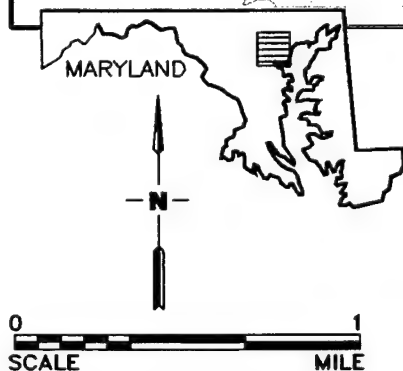
The Fort Holabird DIS property is located within the corporate limits of Baltimore City, Maryland, at 2200 Van Deman Street. The property occupies 7.92 acres in the Holabird Industrial Park in the Dundalk area, approximately one-half mile northeast of the Patapsco River. The site was originally a marshland which was filled in around the time the larger Fort Holabird installation was created during World War I (WWI). The Fort Holabird DIS performed security clearances for the Department of Defense (DoD) and other federal government entities. The Fort Holabird DIS operations were relocated to Linthicum, MD in July 1996. Figure 1-1 shows the general location of the installation.

### 1.5.2 History of Installation

Fort Holabird was established in 1917 when 96 acres of land were allocated for a quartermaster mechanical repair unit. In 1941, additional land was acquired, and the installation grew to approximately 349 acres and 286 buildings during World War II (WWII). After World War II, portions of Fort Holabird were sold off piece by piece. The largest transaction occurred during the period of 1977 to 1979, when 223 acres were sold to the City of Baltimore to form the Holabird Industrial Park and a recreational park. During the history of the installation, several branches of the Army had operations at Fort Holabird. A property acquisition and conveyance summary is provided in Table 1-3. No additional information regarding the nature of past U.S. Government activities was available from the review of title documents.



SOURCE: USGS TOPOGRAPHIC MAP



DEPARTMENT OF THE ARMY			
<b>U.S. Army Environmental Center</b>			
CONTRACT NO. DACA31-94-D-0064		FIGURE 1-1 FORT HOLABIRD DIS	
<b>ICP KAISER ENGINEERS</b>		2113 Emmorton Park Road Edgewood, Maryland 21040 (410) 612-6350	
PREPARED	L.B. DEE	TASK NO.	66226
CHECKED	RRC	ICF DWG NO.	
DATE	04-28-98	FHLOC1-1	
			<b>GENERAL LOCATION OF FORT HOLABIRD DEFENSE INVESTIGATIVE SERVICES</b>



**Table 1-3. Property Acquisition and Conveyance Summary Table**

Tract Number	Index No.	Previous Land Owner	Acreage	Type of Acquisition	Date
		Original Reservation Area	152.55	Original	12/18/17
A-1	1	Carl W. Wellings et ux	0.04	Vendor Fee	5/3/41
A-2	2	ADA C. Moses et al.	0.15	Vendor Fee	5/3/41
A-3	4	T. Bayard Williams Sr. et ux	0.37	Vendor Fee	5/3/41
A-3-1	3	T. Bayard Williams et al	0.61	Vendor Fee	9/13/41
A-4	5	August Gorray et al	0.19	Vendor Fee	5/3/41
A-5	6	T. Bayard Williams Jr. et al	0.23	Vendor Fee	5/3/41
A-5-1	7	T. Bayard Williams Jr. et al	0.10	Vendor Fee	9/13/41
A-6	8	James Pritchard et ux	0.21	Vendor Fee	5/3/41
A-7	10	William J. Byrd et al	0.21	Vendor Fee	5/3/41
A-8	11	James W. West	0.21	Vendor Fee	5/3/41
A-9	12	Leonard T. Cross et ux	0.21	Vendor Fee	5/3/41
A-10	13	Teresa Parr et al	0.32	Vendor Fee	5/3/41
A-11(1)	14	John E. Michael et ux	0.21	Vendor Fee	5/3/41
A-11(2)	15	John P. Michael et al	0.21	Vendor Fee	8/22/41
A-12	16	C. Raymond Levis	0.43	Vendor Fee	5/3/41
A-13	9	Walter Sommers et al	2.69	Vendor Fee	9/13/41
A-14	17	Frederick Ghell et al	0.19	Vendor Fee	9/13/41
A-15	18	Edith T. Stengel et al	0.57	Vendor Fee	9/13/41
A-16	21	B.&O.R.R.Co. (Real Estate Imp. Co.)	8.25	Vendor Fee	9/13/41
A-17	23	Patapsco Building & Loan Assn.Inc.	0.41	Vendor Fee	9/13/41
A-18	24	Charles R. Warren et al	0.67	Vendor Fee	9/13/41
A-19	25	T. Bayard Williams (Trustee)	1.00	Vendor Fee	9/13/41
A-20	26	Mabel I. Paul	1.00	Vendor Fee	9/13/41
A-21	27	Christian Torn et al	0.38	Vendor Fee	9/13/41
A-22	29	Mary Walters	0.24	Vendor Fee	9/13/41
A-23	31	Cornelius O'Keefe et al	0.15	Vendor Fee	9/13/41
A-24	32	Wilbur Reese McCullough et al	0.08	Vendor Fee	9/13/41
A-25	28	Albert V. Pack et al	0.15	Vendor Fee	9/13/41
A-26	19	C. Raymond Levis	0.72	Vendor Fee	9/13/41
A-27	33	Mabel Paul et al	2.64	Vendor Fee	9/13/41
A-28	54	Rosine Schlaile	1.14	Vendor Fee	9/13/41
B-1	52	Ernest E. Draper et al	0.24	Vendor Fee	9/13/41
B-2	51	Herbert W. Slater et al	0.10	Vendor Fee	9/13/41
B-3	50	Frank M. Biser et al	0.10	Vendor Fee	9/13/41
B-4	49	Salvatore Loiacone et al	0.10	Vendor Fee	9/13/41
B-5	48	Salvatore Loiacone et al	0.10	Vendor Fee	9/13/41
B-6	47	Roy Harrison Rodgers et al	0.10	Vendor Fee	9/13/41
B-7	46	Mary Walters et al	1.04	Vendor Fee	9/13/41

**Table 1-3 (continued). Property Acquisition and Conveyance Summary Table**

Tract Number	Index No.	Previous Land Owner	Acreage	Type of Acquisition	Date
B-8	45	George C. Kahl et al	0.22	Vendor Fee	9/13/41
B-9	44	T. Bayard Williams et al	0.25	Vendor Fee	9/13/41
B-10	34	Susanna M. Hopwood et al	0.14	Vendor Fee	9/13/41
B-11	35	Susanna M. Hopwood et al	0.10	Vendor Fee	9/13/41
B-12	36	Giulio Trecannelli et al	0.10	Vendor Fee	9/13/41
B-12 1/2	37	Giulio Trecannelli et al	0.10	Vendor Fee	8/22/41
B-13	39	Esther Kibler et al	0.10	Vendor Fee	9/13/41
B-14	40	T. Bayard Williams et al	0.06	Vendor Fee	9/13/41
B-15	41	Willie Street et al	0.10	Vendor Fee	9/13/41
C-1-1	55	The Dundalk Co.	4.79	Vendor Fee	9/13/41
C-1-2A	58	Erestis F. Gladfelter et al	0.18	Vendor Fee	9/13/41
C-1-2B	56	Erestis S. Gladfelter et al	0.18	Vendor Fee	9/13/41
C-1-3	57	Orestus S. Gladfelter et al	0.28	Vendor Fee	9/13/41
C-1-4	59	Dora M. Schriver et al	0.18	Vendor Fee	9/13/41
C-1-5	60	Rosine Schlaile (Widow)	0.64	Vendor Fee	9/13/41
C-1-6	61	Emidio Pignatti et al	0.39	Vendor Fee	9/13/41
C-1-7	62	Wallace J. Nimmo et al	0.20	Vendor Fee	9/13/41
C-1-8	63	Sadye V. Nimmo et al	0.14	Vendor Fee	9/13/41
C-1-9	64	John Moravec et al	0.20	Vendor Fee	9/13/41
C-1-10	65	Ernest E. Draper et al	0.30	Vendor Fee	9/13/41
C-1-11	66	John Salaba et al	0.20	Vendor Fee	9/13/41
C-1-12	67	John Adams et al	0.24	Vendor Fee	9/13/41
C-1-13	68	American Homes Corporation	0.15	Vendor Fee	9/13/41
C-1-14	69	William Halenar et al	0.18	Vendor Fee	9/13/41
C-1-15	70	Philip Montague et al	0.37	Vendor Fee	9/13/41
C-2-1	77	The Dundalk Co.	7.52	Vendor Fee	9/13/41
C-2-2	78	Joseph Basar et al	0.10	Vendor Fee	9/13/41
C-3-1	72	The Dundalk Co.	1.09	Vendor Fee	9/13/41
C-3-2	73	Lillian E. Myers et al	0.18	Vendor Fee	9/13/41
C-3-3	74	Oliver J. Pecher et al	0.28	Vendor Fee	9/13/41
C-3-4	75	Lawrence Moh DeHaven et al	0.18	Vendor Fee	9/13/41
C-3-5	76	Julia Petrush et al	0.18	Vendor Fee	9/13/41
D-1	79	Safe Deposit & Trust Co. et al	33.66	Vendor Fee	9/13/41
	*	Streets and Alleys	5.61	Vendor Fee	5/3/41
80	80	The Dundalk Co.	7.28	Vendor Fee	12/24/42
81	81	Richard T. Merrit et ux	0.34	Vendor Fee	2/6/43
82	82	Alexander H. Schultz est.	99.61	Vendor Fee	12/2/42
83	83	Natural Accretion & Artificial Fill	14.90	Vendor Fee	5/3/41
87	87	The Dundalk Co.	0.18	Vendor Fee	4/11/55

\* Titles to streets and alleys revert to abutting properties upon abandonment of public use.

**Table 1-3 (continued). Property Acquisition and Conveyance Summary Table**

Tract Number	Index No.	Previous Land Owner	Acreage	Type of Acquisition	Date
A	A	Dept. of Agriculture	17.42	Use Permit	5/26/42
85L	85	B. & O. R. R. Co.	N/A	Agreement W-18-010-ENG-195	8/4/43
86	86	B. & O. R. R. Co.	N/A	Lease No. 49-080-ENG-463	8/16/50
88	88	B. & O. R. R. Co.	N/A	Lease No. 49-080-ENG-4198	5/16/58
<b>Conveyances</b>					
N/A	N/A	Navy Department	2.11	Transferred	4/16/42
N/A	N/A	Public Buildings Administration	17.42	Transferred	11/1/43
N/A	N/A	B. & O. R. R. Co.	0.32	Vendor Fee	3/12/45
N/A	N/A	B. & O. R. R. Co.	0.58	Vendor Fee	3/12/45
N/A	N/A	Baltimore Signal Depot Schultz Farm	107.23	Reassigned	7/1/49
N/A	N/A	General Motors Corp.	5.15	Vendor Fee	8/28/62
N/A	N/A	General Motors Corp.	0.08	Vendor Fee	1/11/66
N/A	N/A	USARC-Jecelin, MD	5.73	Vendor Fee	9/18/72
N/A	N/A	Mayor and City Council of Baltimore City	183.70	Vendor Fee	10/18/77
N/A	N/A	Baltimore County, MD	4.66	Vendor Fee	4/1/80
N/A	N/A	Mayor and City Council of Baltimore City Maryland	38.74	Vendor Fee	5/5/80

N/A Not Applicable

Currently, three original tracts of Fort Holabird still exist: 7.92 acres of land where the Army DIS was located, approximately 6 acres of land where the Crime Records Center (CRC) was located, and approximately 6.6 acres which is the property underlying Cummins Apartment. CRC was selected for closure under BRAC 88 (BRAC I) and will not be discussed further in this EBS. The property underlying Cummins Apartment is discussed in a separate EBS (ICF KE, 1997).

The Fort Holabird DIS property consists of Building 320, a trailer, a storage warehouse, two parking lots, and open space. Constructed in 1954, Building 320 is a three-story reinforced concrete structure with an area of 86,000 square feet (ft<sup>2</sup>). From 1954-1972, the building was used for training by the Army Intelligence School. From 1972 to July 1996, the building housed the Investigative Controls and Automation Directorate under the Department of Defense Investigative Service, which is involved in conducting personnel security checks and clearance for DoD employees and other federal government entities. The warehouse was constructed about 10 years ago and has an area of 4,000 square feet. It was used for storage of office equipment and supplies, and some grounds maintenance supplies. The trailer is 1,200 square feet and was used for periodic training classes. Approximately 40% of the property is paved. A fence outlines the boundary of the property. The trailer and the guard post were removed in July 1996 after Fort Holabird DIS moved operations to Linthicum, MD.

### 1.5.3 Tenants

The only tenant on the Fort Holabird DIS property at the time of realignment was the Investigative Controls and Automation Directorate of the Department of Defense Investigative Service. These operations were moved to Linthicum, MD in July 1996. There are no tenants remaining on the Fort Holabird DIS property at this time.

**Table 1-4. Current Significant On-Post Tenants at Fort Holabird DIS**

Tenant	Location	Mission/Operation
There are no on-post tenants at Fort Holabird DIS at this time. The former tenant, Investigative Controls and Automation Directorate of the Department of Defense Investigative Service, relocated to Linthicum MD in July 1996.		

#### **1.5.4 Environmental Setting**

This section provides a brief description of the environmental setting at Fort Holabird DIS including climatology, topography, hydrology, water usage, physiography, soils, geology, hydrogeology, and sensitive environments.

##### **1.5.4.1 Climatology**

The average annual temperature in Baltimore is 55.1 degrees Fahrenheit (° F) and varies moderately with the seasons. The coldest month of the year is January with a normal monthly temperature of 32.7° F, daily maximum of 41.0° F, and daily minimum of 24.3° F. Temperatures above 90° F occur an average of 30 days per year (ERM, 1994).

Prevailing winds in Baltimore are from a westerly direction with a slight seasonal variation. Winds are from the northwest in the winter and from the southwest in the summer. Coastal storms may produce heavy rain in the warmer months and heavy snow in the colder months in addition to high winds and coastal flooding. Thunderstorms may become severe and produce heavy rains, high winds, and hail. Precipitation is evenly distributed throughout the year. Normal yearly precipitation is 41.84 inches with an average snowfall of 21.6 inches. August is the wettest month with 4.62 inches of precipitation, and February is the driest month with a normal precipitation of 2.98 inches. Snow seldom remains on the ground for an extended period of time (ERM, 1994).

##### **1.5.4.2 Topography**

Fort Holabird DIS is located on a peninsula between two inlets of the Chesapeake Bay, the Patapsco and Back Rivers. The land is relatively flat with elevations varying from 15 to 20 feet mean sea level (msl). The nearby area is completely urbanized with only a few trees and shrubs to the north along Colgate Creek and to the south and southwest along the property boundary.

##### **1.5.4.3 Hydrology**

The hydrology at Fort Holabird DIS include Colgate Creek and Patapsco River which eventually drain into the Chesapeake Bay. There are no standing surface waters located on the Fort Holabird DIS property. Colgate Creek is located approximately 2,000 feet north and 9,000 feet east of the property, and the Patapsco River is located approximately one-half mile southwest of the property. Surface water drains into Colgate Creek either by direct surface runoff or by conveyance through storm sewers. Colgate Creek empties into the Patapsco River, an inlet of the Chesapeake Bay which is heavily used by marine traffic and has a great deal of heavy industry located on its banks.

##### **1.5.4.4 Water Usage**

Water usage at Fort Holabird DIS is obtained from the Baltimore City municipal water system. Municipal water is obtained from surface water north of the city. Although there are several wells in the Fort Holabird DIS area which derive water from the Patuxent Formation for industrial purposes, groundwater is not used as drinking water.

##### **1.5.4.5 Physiography and Soil**

Natural soil profiles at Fort Holabird DIS have been disturbed by earth-moving activities over the years. However, a certain percentage of the natural soil profile can be found, typically buried under fill

material. This area has been mapped by the United States Soil Conservation Service (USSCS) as a complex of the Beltsville soil series and urban soils. The Beltsville soil has developed from stratified Coastal Plain sediments. In a typical natural profile, the Beltsville soil series is characterized by a restrictive zone in the soil profile occurring between 18 to 36 inches below the ground surface. This restriction results in slow water movement through the upper portion of the soil, creating a temporary shallow perched water table during wetter times of the year. Soil textures of the Beltsville soil profile range from a silty loam to a gravelly, sandy loam.

#### **1.5.4.6 Geology and Hydrogeology**

The top geological strata in the Fort Holabird DIS area consists of a 10-foot thick layer of sediment. Below that layer is the Patapsco Formation, which is made up of sand and interbedded with layers of silty clay predominantly made up of quartz, illite, and kaolinite. The Patapsco Formation is approximately 60-foot thick. The next layer is the Arundel Formation, which is a clay layer approximately 130-foot thick interbedded with lenses of sandy silt containing traces of lignitic material. The clay minerals are predominantly kaolinite and illite. The Patuxent Formation is the layer just above the bedrock and is made up of sand and gravel with interbedded lenses of silty clay with quartz as the predominant mineral. The bedrock consists of a complex assemblage of schist, gneiss, and gabbro.

The principal groundwater aquifers in the region are the Patapsco and Patuxent Formations. The Patapsco Formation is the layer capable of yielding large quantities of water. However, the formation is brackish due to the encroachment of seawater, and therefore, not useable as a water source. The Patuxent Formation is the most important water-bearing formation in the Baltimore area. This formation is capable of yielding large quantities of water, and is not brackish in the Fort Holabird DIS area. These aquifers are separated by the Arundel Clay Formation.

Monitoring wells installed on the Fort Holabird DIS property indicate that the depth to groundwater is generally less than 10 feet. The low elevation (15 to 20 feet) and the proximity to the Patapsco River contribute to the high water table. The groundwater flow direction has not been determined for the area. As suggested in the Physiography and Soils section, a confining clay layer is encountered between 18 to 36 inches below the ground surface which may inhibit the transport of surface spills to deeper groundwater aquifers.

#### **1.5.4.7 Sensitive Environments**

A limited number of ornamental trees and shrubs exist on Fort Holabird DIS and the surrounding area. The floral and faunal species found at the site are typical of highly disturbed urban and industrial environments. Fort Holabird DIS does not contain any wetlands and is not in an established floodplain area. Also, no endangered species are known to inhabit the property.

There are no known archaeological sites, significant cultural resources, cemeteries, burial grounds, historic/architectural investigations or National Register sites identified on, or associated with, the Fort Holabird DIS property (USACE, 1991).

#### **1.5.4.8 Hazardous Substances Storage, Disposal, and Waste Management Practices**

Fort Holabird DIS was not classified as a small quantity hazardous waste generator. Hazardous substances were produced in very small quantities, so a RCRA identification number was not assigned to the installation. One-time permits for temporary storage of hazardous wastes were obtained when necessary; however, no information is available on whether any RCRA permits have been issued.

Hazardous substances were stored and used in various operations of Building 320 and in the warehouse. They include: developer, fixer, and anhydrous ammonia for microfilm processing; paints for building maintenance; batteries as backup power for the computers; halon 1301 for fire extinguishing; HCFC for air conditioning; propane for the boilers; miscellaneous cleaning supplies; and typical office inks and toners in Building 320. Pesticides, herbicides, fungicides, insecticides, rodenticides, paints, gasoline, oil, and hydraulic fluid were stored in the warehouse. Barrels and buckets of refrigerant oil (CCl<sub>3</sub>F) were observed stacked in the corner of the boiler room and an unmarked 55-gallon drum bulging at the bottom was observed outside the southwest side of the building next to the chimney during an ICF KE site visit in

October 1995. Fuel oils were stored in above-ground storage tanks (ASTs) outside and were regularly refilled. Table 1-5 outlines hazardous waste generating activities.

Much of the hazardous materials were consumed. Some spent containers entered the municipal solid waste (MSW) stream, some materials were recycled through the supplier, and others have been moved to Linthicum, MD with the move of DIS. Table 1-6 identifies the historical hazardous substance generating activities by type of operation. Figure 1-2 identifies the current location of USTs, ASTs, and past hazardous substance activities.

## 1.6 OFF-POST PROPERTIES

There are no off-post properties for Fort Holabird DIS. The Fort Holabird CRC and the Property Underlying Cummins Apartment are not included in this investigation.

## 1.7 ADJACENT PROPERTIES

Fort Holabird DIS is an industrial-zoned property in the Holabird Industrial Park. The surrounding properties consist primarily of paved surfaces with industrial, commercial, and residential usages. The Baltimore Parks Recreation Area known as Project Open Space is located to the north of Fort Holabird DIS. High-density residential communities of Dundalk and St. Helena lie east and southeast of Fort Holabird DIS. Properties directly adjacent to the Fort Holabird DIS property include:

Eastern Industrial Medical Center	1833 Portal Street
Adcrafters Inc.	1821 Portal Street
John D. Lucas Printing Co.	1820 Portal Street
Poly-Seal Corporation	1810 Portal Street
Maryland Screen Printers	1801 Portal Street
GPGG Chemical Corp.	1901 Portal Street
ATCO Rubber Co.	1900 Portal Street
Gascoyne Laboratories	2101 Van Deman Street
Thrasher Group	2201 Van Deman Street
Red Star Yeast	2100 Van Deman Street
Riggs Distler & Co. Inc.	2111 Van Deman Street
TNEMEC Company Inc.	2300 Edgewater Ave
A.Z. Bogert Co. Inc.	2320 Edgewater Ave

These properties are used primarily for commercial purposes such as corporate centers, offices, and service centers with the exception of Red Star Yeast which maintains manufacturing operations. Figure 1-3 shows the surrounding vicinity community and land use for Fort Holabird DIS.



Table 1-5. Hazardous Waste Generating Activities for Fort Holabird DIS

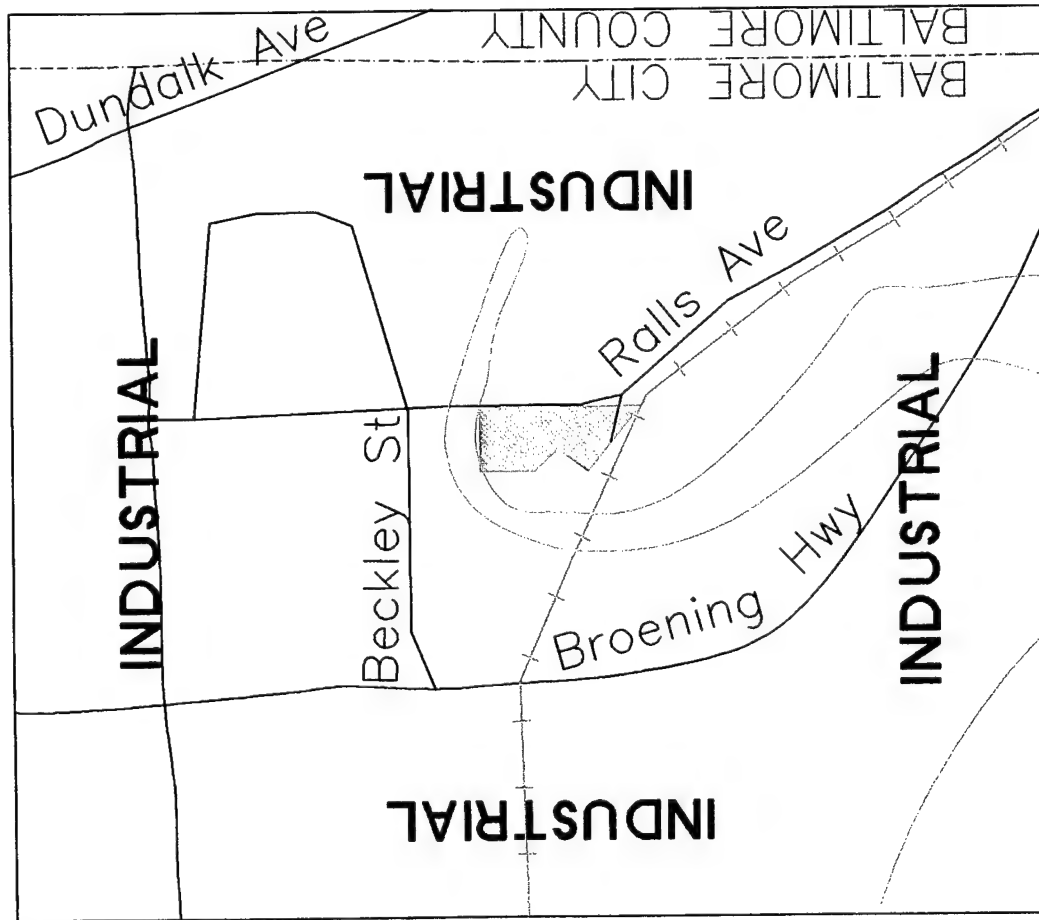
Years Stored	Location	Facility/Operation	Activity	Name of Waste Material	Amount Stored	Disposition
72-96	Bldg 320	General	Laser Printing and Copier	Inks and Toners	misc.	Used. Cartridges were recycled or disposed of by the MSW contractor.
74-96			Diazo Machine	Anhydrous Ammonia	(2) 50-lb canisters	Used. Canisters were returned to supplier and refilled.
74-96			Film Development	Developer	1-gal containers	Liquid waste stream was discharged down the drain into the municipal sanitary sewer system after use. Containers entered MSW waste stream.
74-96				Fixer	1-gal containers	
72-96		General		Solvents	misc.	Used. Containers were disposed of by the MSW contractor.
72-96				Paints	1-5 gal containers	
72-96		Computer Room	Fire Extinguishing	Halon 1301	(4) 487-lb tanks	Used. Expired units were removed and recycled through the manufacturer.
72-96	Boiler Room		Backup Power	Batteries	60 cells	Relocated to new site at Linthicum.
72-96			Air Conditioning	HCFC-22	100-lbs	Used.
72-96			Chiller	HCFC-113	100-lbs	
72-96			Storage	Refrigerant Oil (CCl <sub>3</sub> F)	120-lbs	Moved to Ft. Meade for disposal as of July 1996.
72-96		Outside Chimney	Storage	Unknown	55-gal drum	Opened and disposed of by the contractor, Valley Protein.
85-96	Warehouse	Storage	Storage	Paint	35-gals	Disposed of by the MSW contractor.
85-96				Gasoline	40-gals	Used. Stored amounts have been relocated to new site at Linthicum as of July 1996.
85-96				Oil	3-5 gals	
85-96				Hydraulic Fluid	3-5 gals	Used. Cartridges were recycled or disposed of by the MSW contractor.
85-96				Toner	Several pallets	
85-96	Trailer	Various	Copier	Insecticide	1-2 aerosol cans	Used. Disposed of by the MSW contractor.
85-96				Toner	1-2 cartridges	

**Table 1-6. History of Installation Operations at Fort Holabird DIS**

<b>Period</b>	<b>Type of Operation</b>	<b>Hazardous Substance Activities</b>	<b>Map Reference <sup>a</sup></b>
1917	Quartermaster Mechanical Repair Unit	Unknown	None
1954-1972	Army Intelligence School Training Unit	Incineration, maintenance operations, fuel storage & dispensing, waste disposal, construction, hazardous material/waste usage and storage.	None
1972-1996	Investigative Controls & Automations Directorate	Maintenance operations, fuel storage & dispensing, waste disposal, construction, hazardous material/waste usage and storage.	Entire Figure

<sup>a</sup> See Figure 1-2.





DEPARTMENT OF THE ARMY

# U.S. Army Environmental Center

CONTRACT NO. DACA31-94-D-0064

FIGURE 1-3  
FORT HOLABIRD DIS

**ICF KAISER  
ENGINEERS**  
2113 Emmorton Park Road  
Edgewood, Maryland 21040  
(410) 612-6350

VICINITY MAP AND  
COMMUNITY  
LAND USE

PREPARED I.S. DEE TASK NO. 66226

CHECKED RRC ICF DWG. NO.

DATE 04-28-98 FHBCP1-3

## 2.0 PROPERTY DISPOSAL AND REUSE PLAN

This section describes the status of the disposal planning process for Fort Holabird DIS and the relationship between the disposal process and environmental programs at the installation. It also identifies property transfer methods being utilized or considered in the reuse process.

### 2.1 STATUS OF DISPOSAL AND REUSE PLAN

The official closure date for Fort Holabird DIS is October 1998. The disposal and transfer of Fort Holabird DIS involves three interrelated activities: the National Environmental Policy Act (NEPA) documentation process, development of a disposal plan, and development of a community reuse plan. Information on disposal or reuse of the Fort Holabird DIS property is not available at this time.

### 2.2 RELATIONSHIP TO ENVIRONMENTAL PROGRAMS

Disposal and reuse activities at Fort Holabird DIS are intimately linked to environmental investigations, restoration, and compliance activities for two basic reasons:

- Federal property transfers to nonfederal parties are governed by CERCLA Section 120(h)(3)(B)(i); and
- Residual contamination may remain on certain properties after remedial actions have been completed or put into place, thereby restricting the future use of those properties.

CERCLA Section 120(h)(3)(B)(i) requires deeds for federal transfer of previously contaminated property to contain a covenant that all RAs necessary to protect human health and the environment have been taken. The 1992 CERFA amendment to CERCLA provided clarification to the phrase "have been taken." This clarification states that all remedial action has been taken if the construction and installation of an approved remedial design has been completed, and the remedy has been demonstrated to MDE/USEPA to be operating properly and successfully. It further states that the carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to MDE/USEPA to be operating properly and successfully, does not preclude the transfer of the property. This deed requirement applies only to property on which a hazardous substance was stored for one year or more, or is known to have been disposed of or released. Thus, any required remedial and/or removal response actions must be selected and implemented for such contaminated properties before transfers to private parties can occur.

Table 2-1, when completed, will take into consideration compliance to CERCLA 120(h) and the potential of residual contamination and compliance to present summary information on the disposal and reuse parcels. It will also provide an approximate timetable for transfer by deed of each parcel at Fort Holabird DIS. The strategy and schedule for Fort Holabird DIS, when developed, will be designed to streamline and expedite the necessary response actions associated with parcels in order to facilitate the earliest possible disposal and reuse activities.

**Table 2-1. Reuse Parcel Data Summary**

Parcel	Acres	Priority	Description and Proposed Reuse	Known Sites	Projected Transfer Date	Transfer Mechanism	Recipient
Information on disposal and reuse parcels is not available at this time. Future changes will be reflected here.							

### 2.3 PROPERTY TRANSFER METHODS

The various property transfer methods being utilized or considered in the disposal process at Fort Holabird DIS are described in this section. Transfer methods which may not be currently applicable but which may be considered in future disposal planning actions at the installation have also been identified.

### 2.3.1 Federal Transfer of Property

Transfer actions between Federal agencies are not applicable to Fort Holabird DIS at this time.

### 2.3.2 Economic Development Conveyance

There is no indication at this time that transfers by economic development conveyance (EDC) will occur at Fort Holabird DIS. Environmental development compliance is a method of transferring real property to a Land Redevelopment Authority (LRA) to help spur economic development and job creation. An EDC may be with or without initial payment at the time of transfer, and may be at or below the estimated fair market value of the property.

### 2.3.3 Negotiated Sale

There is no indication at this time that negotiated sales will occur at Fort Holabird DIS.

### 2.3.4 Competitive Public Sale

There is no indication at this time that competitive public sales will occur at Fort Holabird DIS.

### 2.3.5 Widening of Public Highways

Widening of public highways is not applicable to Fort Holabird DIS at this time.

### 2.3.6 Donated Properties

There is no indication at this time that donation of properties will occur at Fort Holabird DIS.

### 2.3.7 Interim Leases

There is no indication at this time that interim leases will occur at Fort Holabird DIS.

**Table 2-2. Existing Legal Agreements/Interim Leases**

Title of Interim Lease/Legal Agreement	Building Number/Areas	Date of Agreement	Reuse Parcel
There are no existing legal agreements/interim leases at this time. Future changes will be reflected here.			

### 2.3.8 Other Property Transfer Methods

Other property transfer methods are not applicable to Fort Holabird DIS at this time.

### 3.0 INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS

This section provides a summary of the current status of environmental restoration projects, installation-wide assessment activities, ongoing compliance activities, cultural and natural resources programs, and community involvement at Fort Holabird DIS. This section also describes the status of the environmental condition and suitability of transfer of the property.

#### 3.1 ENVIRONMENTAL PROGRAM STATUS

The Environmental Management Office (EMO) at Fort Meade managed and coordinated some of the environmental programs at Fort Holabird DIS. Other activities were coordinated by DIS Chief of Facilities. The goal of these environmental programs was to protect human health and the environment. Currently, all tenant operations have been moved to Linthicum, MD as of July 1996, so there are no ongoing environmental management programs being conducted. In October 1996, a sampling and analysis recommendation (SAR) was submitted (ICF KE, 1996). Based on this, a Project Work Plan (PWP) was developed in June 1997 outlining sampling tasks at DIS (USACE, 1997). Updates regarding the results of these sampling tasks will be included in future versions of the BCP.

##### 3.1.1 Restoration Sites

Limited early action restoration activities have occurred at Fort Holabird DIS. To date, restoration activities include a UST removal and excavation of leaking underground lines related to the ASTs. The status of early actions taken at these sites are summarized in Table 3-1. The locations of these sites are identified in Figure 3-1. Additional restoration sites which may be determined later will be appropriately updated to Table 3-3, Environmental Restoration Site Study Area Summary.

Table 3-1. Environmental Restoration Early Action Status

Site	Action	Purpose	Status
UST Spill Area	UST was removed.	Source removal	Sampling of the monitoring wells was discontinued in February 1998.
	Four monitoring wells were installed.	Determine level of groundwater contamination	
AST Spill Area	A 50-foot boom was placed along the embankment of Colgate Creek.	Source removal	Underground lines were replaced with above-ground lines. Contaminated soil was removed according to soil auguring findings.
	Hand-augured soils samples were taken.	Determine lateral extent of release	
	Contaminated soil was removed.	Remove residual contamination	

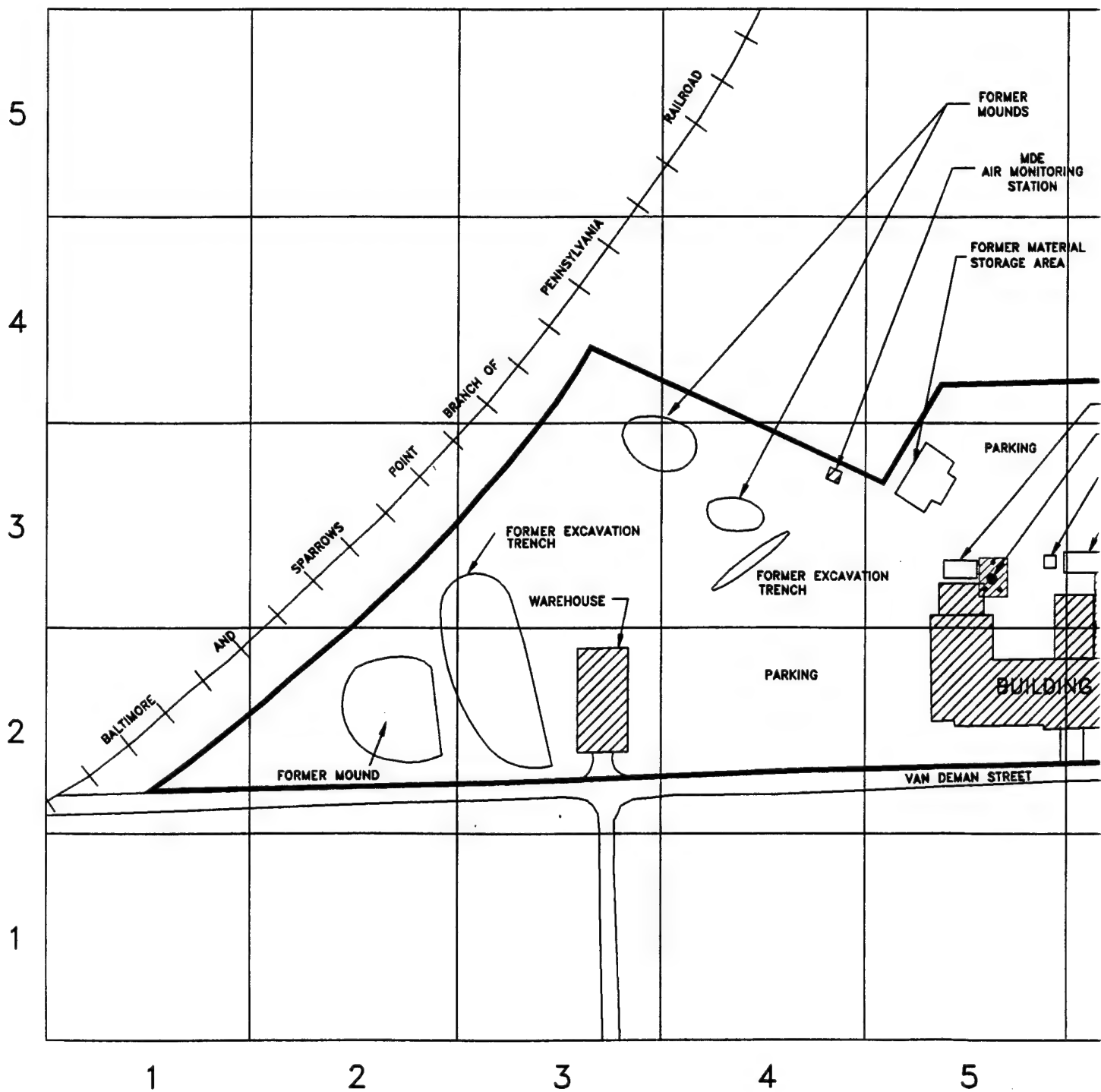
UST     Underground Storage Tank  
AST     Above-ground Storage Tank

##### 3.1.2 Installation-Wide Source Discovery and Assessment Status

An installation-wide source discovery and assessment was performed in the format of an EBS. The EBS of Fort Holabird DIS was conducted in 1995 and the results of the survey are summarized in the final EBS Report and the CERFA Letter Report (an appendix of the EBS) submitted in April 1998 (ICF KE, 1998). The EBS summarizes the status of Fort Holabird's environmental programs, and the CERFA Letter summarizes the areas that were identified in the EBS as requiring environmental evaluation. Additional information regarding the CERFA parcels is presented in Section 3.4. Table 3-2 lists the AREEs identified in the EBS as having potential sources of contamination.

Additional restoration sites which may be identified as a result of future installation source discovery and possible assessment investigations, will be updated in Table 3-3.

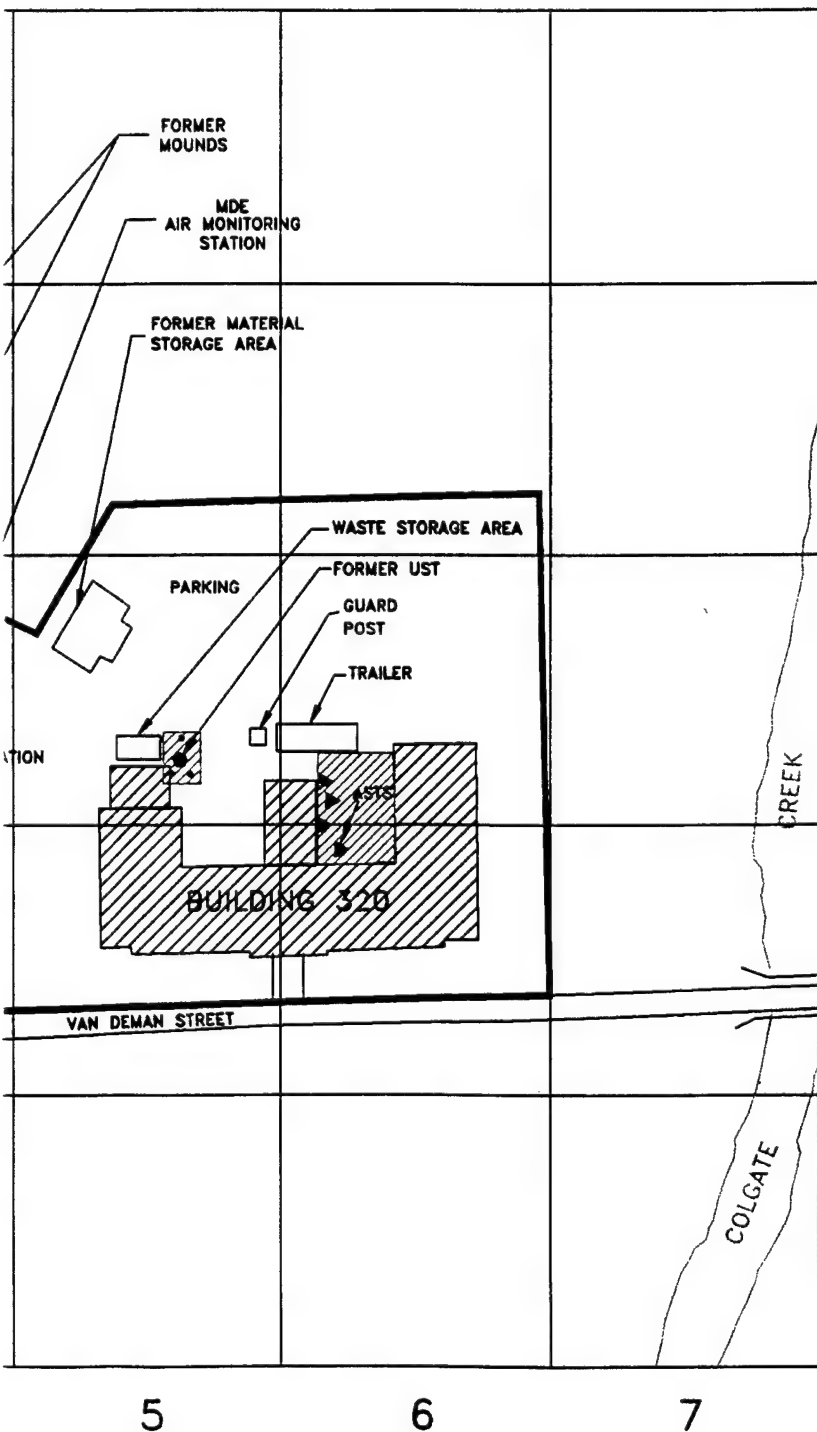
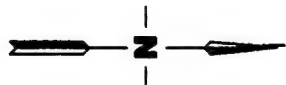
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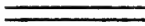

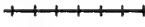




200



SCALE



### LEGEND

-  BUILDING/STRUCTURE
-  REMOVED BUILDING/STRUCTURE OR DELINEATED FORMER STORAGE LOCATION
-  ROADS, PARKING, ETC, PAVED
-  BRAC PROPERTY BOUNDARY
-  RAILROAD
-  ASTS
-  USTS
-  MONITORING WELL
-  ENVIRONMENTAL RESORATION EARLY ACTION SITE

## DEPARTMENT OF THE ARMY U.S. Army Environmental Center

CONTRACT NO. DACA31-94-D-0064

FIGURE 3-1  
FORT HOLABIRD DIS

**ICF KAMR ENGINEERS** 2113 Emmorton Park Road  
Edgewood, Maryland 21040  
(410) 612-6350

PREPARED RRC TASK NO 66226

CHECKED T. LONGE ICF DWG NO.

DATE 04-28-98

**ENVIRONMENTAL  
RESTORATION EARLY  
ACTION SITES**

Table 3-2. Preliminary Location Summary of AREEs

AREE Number	AREE Description	Environmental Investigation Report Findings		Recommendations °
		EBS	Findings	
N/A	UST Spill Area	X	Release of petroleum products.	Resample the existing groundwater monitoring wells.
N/A	AST Spill Area	X	Release of petroleum products.	Sampling of stained area adjacent to the parking lot.
N/A	Waste Storage Area	X	Potential release of hazardous substances.	No final determination.
N/A	Former Material Storage Areas (MSA)	X	Potential release of hazardous substances.	Surface and subsurface soil sampling.
N/A	Former Excavation Trenches and Mounds	X	Potential release of hazardous substances.	Surface and subsurface soil sampling.

<sup>a</sup> Based on information obtained from the PWP, June 1997

AREE Area Requiring Environmental Evaluation

EBS Environmental Baseline Survey

N/A Not Applicable



Table 3-3. Environmental Restoration Site/Study Area Summary

OU	Site No.	CERFA Parcel	Description	Materials Stored or Released	Dates of Operation	Status	Risk to Human Health and the Environment	Regulatory Mechanism	Recommendation
OUs, zones, and reuse parcels have not been established at this time.	Site numbers have not been assigned at this time.	1	UST	No. 2 fuel oil	Until 7/7/86	Removed	Risk assessments have not been performed at this time.	MDE, EPA	Resampling of existing groundwater monitoring wells
		2	AST	Diesel fuel	Until 7/96	Inactive		MDE, EPA	Soil sampling adjacent to parking lot
		3	Former MSA	Unknown	Observed in 1944 to 1957	Paved by parking lot		MDE, EPA	Soil sampling
		4	Former trenches and mounds	Unknown	Observed in 1944 to 1960	The trenches were filled and the mounds removed		MDE, EPA	Soil sampling

CERFA Community Environmental Response Facilitation Act  
MSA Material Storage Area  
No. Number  
OU Operable Unit

### 3.2 COMPLIANCE PROGRAM STATUS

Environmental compliance program records are maintained by the Fort Holabird DIS and by the Fort Meade EMO. Mission- and operational-related projects are those which have been or would be conducted for the normal operation of the installation. These projects are unrelated to activities necessitated by the installation closure under BRAC. General compliance activities address the management of USTs, ASTs, hazardous substances and waste, polychlorinated biphenyls (PCBs), asbestos, lead-based paint (LBP), and water discharges. Examples of hazardous substances used on the installation include developer and fixer, anhydrous ammonia, computer backup batteries, fire extinguishers, air conditioning substances, and refrigerant oil. Compliance programs which were being implemented at DIS prior to July 1996 are identified in Table 3-4 and detailed in the following sections.

**Table 3-4. Mission/Operational-Related Compliance Projects**

Project	Status	Regulatory Programs
USTs	Removal of only known UST in 1986	MDE, RCRA – Subtitle I
ASTs	Removal of AST underground piping in 1994	MDE, RCRA – Subtitle I
Hazardous Waste Management	Storage and disposal as required	RCRA – Subtitle C
PCBs	No PCB transformers remain on site	TSCA
Asbestos	Abatement in conjunction with normal O&M activities	MDE, OSHA
LBP	Three testing efforts completed; additional analysis recommended	MDE, OSHA

AST Above-ground Storage Tank  
 LBP Lead-Based Paint  
 MDE Maryland Department of the Environment  
 O&M Operations and Maintenance  
 OSHA Occupational Safety and Health Administration  
 PCB Polychlorinated Biphenyl  
 RCRA Resource Conservation and Recovery Act  
 TSCA Toxic Substances Control Act  
 UST Underground Storage Tank

Closure-related compliance projects are those environmental compliance and restoration activities related to BRAC closure and property disposal. There are no closure-related compliance projects identified for Fort Holabird DIS at this time. When identified, such closure-related compliance projects will be listed in Table 3-5.

**Table 3-5. Closure-Related Compliance Projects**

Project	Status	Regulatory Program
Closure-Related Compliance Projects have not been identified for Fort Holabird DIS at this time. Future changes will be reflected here.		

A number of compliance-related activities at Fort Holabird DIS have been completed as part of the installation's compliance program to remove contamination sources and reduce risk posed by releases or potential releases. These actions include asbestos abatement, PCB removal, and UST removal and replacement. These early actions are identified in Table 3-6.

**Table 3-6. Compliance Early Action Status**

Site Number	Action	Purpose	Status
PCB Remediation	Three PCB-containing transformers were replaced in 1991.	Comply with PCB mitigation laws	No PCB transformers remain on the installation.
Asbestos Remediation	Removal of ACM in basement room, and air handling rooms	Comply with Federal and U.S. Army regulations	Ongoing
LBP Remediation	Limited LBP abatement	Comply with Federal and U.S. Army regulations	Ongoing

ACM    Asbestos-containing material  
PCB    Polychlorinated Biphenyl  
LBP    Lead-Based Paint

### 3.2.1 Storage Tanks

One UST and four ASTs have been used for the storage of diesel and fuel oil petroleum products at Fort Holabird DIS. The UST has been removed and the ASTs are currently inactive. Compliance activities and environmental restoration activities related to these storage tanks are described in the following subsections.

#### 3.2.1.1 Underground Storage Tanks

The former UST spill area is located about 30 feet on the outside of the boiler room wall near the southwest corner of Building 320. An 8,000-gallon UST was installed in this area around 1952 when Building 320 was constructed. The UST was used to store No. 2 fuel oil for the boiler until 1986 when the boiler was converted to burn propane gas. On March 13, 1986, oil from the UST and its supply line was observed bubbling out of the ground during excavation of water lines. An estimated 10 gallons was released. According to MDE records, the UST was removed on July 7, 1986, and its lines were tested for tightness. Excavation of the former UST revealed pooled oil in the open pit. Large corrosion holes were found in the feed line and on the tank. The feed line also failed the hydraulic test. Table 3-7 lists information about the UST.

Four monitoring wells were installed: one in the excavation site near the west end of the site, one between the excavation site and the boiler room, one approximately 25 feet directly west of the excavation site, and one approximately 20 feet directly north of the excavation site. The four wells were bailed on October 28, 1986, by MDE. Two of the wells were found to contain 10 inches and 1 inch of free petroleum products, respectively. Petroleum products were subsequently found in the other two wells. Thereafter, Handex Corporation was contracted by Fort Meade's EMO to gauge and purge the wells of free products as necessary. The practice was discontinued in February 1988, when free-product was no longer found. A letter to MDE from Handex stated that discontinuation of the monthly gauging was requested by the Army and permitted by the State. The Handex monthly gauging consisted only of observation of the presence of free product and its thickness. No analytical results were obtained.

#### 3.2.1.2 Above-ground Storage Tanks

Three ASTs with capacities of 500, 275, and 100 gallons, are located in a bermed area in the northern open space of Building 320. These tanks store diesel fuel for an emergency power generator for facility computers. The tanks were previously connected to underground feeder lines and to a 50-gallon charge AST. Table 3-8 lists the ASTs on site.

Table 3-7. Underground Storage Tank Inventory

Tank No.	Site No. /Parcel	Location	Year Installed	Capacity (gallons)/ Tank Material	Substance Stored	Status	Comments	Future Actions
N/A	N/A	Bldg 320	1952	8,000/Steel	No. 2 Fuel Oil	Removed 7/7/86	Spill occurred on 3/13/86	Sampling of monitoring wells

Bldg Building  
N/A Not Applicable

**Table 3-8. Above-ground Storage Tank Inventory**

<b>Tank No.</b>	<b>Location</b>	<b>Year Installed</b>	<b>Capacity (gallons)</b>	<b>Contents</b>	<b>Status</b>
N/A	Bldg 320	Unknown	500	Diesel	Inactive
N/A	Bldg 320	Unknown	275	Diesel	Inactive
N/A	Bldg 320	Unknown	100	Diesel	Inactive
N/A	Bldg 320	Unknown	50	Diesel	Inactive

On March 1, 1994, a leak was discovered along the path of the underground lines. The leak infiltrated the grassy area across from the parking lot. On March 7, 1994, the MDE emergency response team was notified following the discovery of an oily sheen in the storm drain located in the rear of the building and on a stream approximately 300 yards from the site. The stream empties into Colgate Creek. A 50-foot boom was placed along the embankment from where the oily product was leaching. The leaking underground lines were excavated and replaced with above-ground piping. The lateral extent of the release was determined by hand-augured soil samples. Soil in the contaminated area was removed to a depth of approximately 18 inches and stockpiled on site. Analytical testing of the stockpiled soil found no petroleum contamination (C.W. Over, 1994). The soil was then transported to Maryland Clay Products to be manufactured into bricks (Cherokee, 1994). At that time, MDE did not require groundwater monitoring wells to be installed in the area to determine possible impact to groundwater. A clay layer was encountered one foot beneath the surface which implied that contamination would not infiltrate below this level. Cleanup of the site was determined to be complete by the MDE on February 8, 1995.

During the October, 1995, site visit, ICF KE staff observed that soil beneath the paved driveway that separates the tanks from the dead grassy area was not sampled after the spill occurred. The path of the underground pipe is along this area and the soil may have been impacted by the spill. ICF KE staff also noticed oil stains and dead vegetation around the charge tank. This soil has been removed as of September, 1996.

### **3.2.2 Hazardous Materials/Waste Management**

Hazardous waste compliance programs at Fort Holabird DIS were conducted under the following: AR 200-1; the Federal requirements found in 40 CFR 260 through 269, 40 CFR 117, and 40 CFR 171 et seq.; Department of Transportation (DOT) regulations; and the Maryland hazardous Waste Management regulations. Hazardous wastes generated on site were managed in accordance with all applicable State and Federal regulations.

Permitted activities that are regulated under the provisions of RCRA include storage and use of hazardous substances, and generation, storage, and disposal of hazardous wastes. Hazardous substances used at the Fort Holabird DIS include solvents, petroleum products, flammable liquids, herbicides, pesticides, and other miscellaneous office toners and inks. Records on storage or use of hazardous substances were managed on site at Fort Holabird; however, records were not available at the installation.

#### **3.2.2.1 Hazardous Materials Management**

Hazardous substances were stored and used in various operations of Building 320. Hazardous substances used at Fort Holabird DIS included developer, fixer, and anhydrous ammonia for microfilm processing; paints for typical building maintenance; batteries as backup power for the computers; propane for the boilers; miscellaneous cleaning supplies; and typical office inks and toners. Most of the substances were purchased in 1- to 5-gallon (gal) containers. Anhydrous ammonia was purchased in two 50-pound (lb) canisters that were centrally connected to four diazo machines. All these items were stored inside Building 320 except when the canisters were relocated to outside the building because of an odor problem.

Halon 1301, an ozone depleting substance, was stored in four 487-lb tanks in the computer room in Building 320 (Room 220) for fire extinguishing. Three air conditioning units in the computer room each operated with about 100-lbs of HCFC-22. A chiller also operated with about 100 pounds of HCFC-113.

Four 200-lb barrels, three 100-lb barrels, and two 5 gallon buckets containing approximately 120 gallons of refrigerant oil ( $\text{CCl}_3\text{F}$ ) were observed stacked in the corner of the boiler room during the October 1995 site visit. According to Mr. Fiegel, Fort Holabird DIS Chief of Facilities, these refrigerant oils had accumulated over 5 years. The waste containers were not properly labeled, and were located in an area not equipped with spill containment adjacent to a floor drain. These containers of refrigerant oil were relocated to Fort Meade in September 1996 for disposal through Fort Meade's contractors. There is no information to suggest that spills or releases of hazardous substances occurred at this location.

An unmarked 55-gallon drum, which was bulging at the bottom, was observed outside the southwest side of the building next to the chimney. According to installation employees, the barrel had been there for several years. The 55-gallon drum was opened and disposed of in July 1996. According to Mr. Michael Fiegel and the MDE, the drum contents appeared to be water, food, and grease presumed to have originated from an on-site cafeteria. The drum was shipped from the site by the contractor, Valley Protein, to an appropriate facility in July 1996.

Fuel oils were stored in ASTs outside and were regularly refilled. Paints, gasoline, oil, hydraulic fluid, toners, and insecticides were stored in the warehouse in small quantities for normal operations and maintenance usage. Usage of pesticides, herbicides, fungicides, insecticides, and rodenticides were assumed to be according to label instructions and not in quantities in excess of routine usage. Storage and use of hazardous substances are summarized in Table 3-1.

#### **3.2.2.2 Hazardous Waste Management**

Given the nature of activities at Fort Holabird DIS, hazardous substances were produced in small quantities, so no RCRA permits were required. Spent chemical solutions used in photographic processing were discharged down the drain into the municipal sanitary sewer system as allowed in a sub-permit with Baltimore City (See Appendix B, Interview with Paul Robert). A copy of this permit with the City of Baltimore for the discharge of spent fixers and developers was not available for review. Communication with the City of Baltimore permit department indicated that Fort Holabird DIS never held a permit with them. Photographic fluid containers entered the MSW stream. Spent anhydrous ammonia containers were returned to the supplier where they were refilled. Inks and toners were used and the spent containers were recycled through the supplier, or disposed of through the MSW stream. Fire extinguishers (Halon 1301) were removed and sent back to the supplier. The backup power batteries have been moved to Linthicum, MD with the move of DIS. Refrigerants were consumed. Paints and insecticides were used and then disposed of through the MSW stream. Gasoline, oil and hydraulic fluid stored in the warehouse were used. The stored amounts were removed from the warehouse by the general site maintenance contractors in July 1996 when the DIS relocated its operations to Linthicum, MD.

#### **3.2.3 Solid Waste Management**

No documentation was available detailing the MSW stream. However, it is assumed that normal disposal occurred in on-site dumpsters which were removed by refuse contractors. Dumpsters were located in the waste storage area on the southwest side of the building shown in Figure 1-2.

#### **3.2.4 Polychlorinated Biphenyls**

PCB management compliance programs at Fort Holabird DIS were conducted under AR 200-1, Federal requirements found in 40 CFR 761, and DOT regulations. A transformer located in a basement transformer room and three transformers located on an outdoor substation, were suspected to contain PCB. In February 1991, seven wipe samples from the indoor vault, three wipe samples, four soil samples, and three oil samples from the outdoor transformers were taken for PCB analysis. The three oil samples from the outdoor transformers indicated that these transformers are PCB-contaminated (50-499 ppm). The three transformers were drained of the PCB-contaminated fluid and the drained fluid and the

transformers were removed from the site in April and May, 1991. The hazardous waste materials were properly manifested (MET, 1991).

The outdoor concrete pad is required to be cleaned to less than  $10 \mu\text{g}/100 \text{ cm}^2$ . Wipe samples from the outdoor concrete pad confirmed that it was clean. Soil is required to be excavated to a point where the PCB concentration is 10 ppm or less. Soil samples from the outdoor substation also indicated the soil to be clean.

The floor of the basement transformer room is required to be cleaned to below  $10 \mu\text{g}/100 \text{ cm}^2$  or  $100 \mu\text{g}/100 \text{ cm}^2$  and then encapsulated with an epoxy paint. Although attempt was made to clean the floor to within the above standards, additional hazardous conditions prompted further actions. Flooding in a high voltage switch gear area and the presence of a floor drain led to the decision to remove and replace 200 cubic feet of the concrete floor, and also encapsulate it with epoxy paint. This was performed by Statewide construction in May 1991. A new switch gear was installed as part of the work.

### 3.2.5 Asbestos

Asbestos-containing material (ACM) is regulated by USEPA, the Occupational Safety and Health Administration (OSHA), and MDE. Asbestos at Fort Holabird DIS is managed in compliance with the U.S. Army guidance "Lead-Based Paint and Asbestos in U.S. Army Properties Affected by Base Realignment and Closure."

According to Fort Holabird DIS staff, an asbestos survey conducted in limited areas of Building 320 between 1985 and 1987 confirmed the presence of asbestos containing materials (ACMs) in the building. ACMs were found in some of the air handling rooms and have been removed. An internal environmental study conducted in 1991 also found ACMs in floor tiles. In 1992, the chiller room and the boiler room were tested for ACMs prior to repair work on the chiller, and no asbestos was found to be present. Neither the 1985-1987 asbestos survey, nor the 1991 internal environmental study was available for review because they could not be found.

### 3.2.6 Radon

The radon reduction program at Fort Holabird DIS is conducted under AR 200-1, Chapter 11, U.S. Army Radon Reduction Program. According to Fort Holabird DIS staff, radon testing was conducted as part of an internal environmental study in 1991. However, ICF KE was unable to obtain written documentation of this effort and any further information such as location and radon levels was unavailable.

### 3.2.7 RCRA Facilities (Solid Waste Management Units)

No RCRA facilities, or solid waste management units (SWMUs) were identified at Fort Holabird DIS.

### 3.2.8 National Pollutant Discharge Elimination System Permits

Building 320 at Fort Holabird DIS has always been serviced by the City of Baltimore municipal sanitary sewer system. Wastewater from Building 320 consists of typical effluent from toilets and sinks except for small amounts of spent developing solutions from microfilm processing operations. Mr. Paul Robert, Fort Meade EMO Chief, stated that a \$50 sewer discharge sub-permit was obtained from the City of Baltimore to allow for the discharge of the effluent from the microfilm development operation. A copy of the environmental permit with the City of Baltimore for the discharge of spent fixers and developers could not be located.

Stormwater from the parking lot and the rest of the site is discharged through an underground stormwater drainage system to Colgate Creek which is located north of Fort Holabird DIS. According to Mr. Fiegel, Fort Holabird DIS Chief of Facilities, the installation does not require a stormwater permit.

### 3.2.9 Oil/Water Separators

No oil/water separators exist on the Fort Holabird DIS property.



### **3.2.10 Lead-Based Paint**

A lead-based paint (LBP) survey has been conducted for Building 320; however, the results are unavailable for review because the document cannot be located. Lead-based paint is expected to be present in the building because it was built before 1978. The storage warehouse, the trailer and the guardpost are not expected to have LBP because they were built after 1978. No abatement has been performed except some limited removal in the boiler room during the removal of a PCB-containing transformer in 1991.

### **3.2.11 Unexploded Ordnance**

There is no evidence that suggests the existence of UXO on the Fort Holabird DIS property.

### **3.2.12 Nuclear Regulatory Commission Licensing**

There is no evidence that suggests the presence or past usage of any radioactive materials on the Fort Holabird DIS property.

### **3.2.13 Pollution Prevention**

Pollution prevention at Fort Holabird DIS was managed in accordance with Chapter 6 of AR 200-1 and applicable Federal and State regulatory requirements. Pollution prevention activities included waste minimization and recycling, and were implemented until the installation moved its operations in July 1996.

### **3.2.14 National Environmental Policy Act**

Environmental program status of the property has not been determined pursuant to NEPA at this time.

### **3.2.15 Air Permits**

Fort Holabird DIS had permits for two burners each of which has a power capacity of 2.2 MBTU/hr. The burners used No. 2 fuel oil until 1985 when the fuel was converted to propane gas. Other sources of air emissions at Fort Holabird included refrigerants, coolants, and microfilm processors. These sources did not require air permits.

Fort Holabird DIS is located in a highly industrialized area. At least one neighboring industry, Red Star Yeast, is a significant source of local air pollution. Currently, MDE has an air monitoring station located on site to record air emissions in the area.

## **3.3 STATUS OF NATURAL AND CULTURAL RESOURCES PROGRAMS**

This section presents the current status of the natural and cultural resources programs at Fort Holabird DIS. These programs include the identification and management of sensitive environments; vegetation wildlife; wetlands; rare, threatened, and endangered species; and cultural resources. Natural and cultural resources at Fort Holabird DIS are managed in accordance with AR 420-74 and 420-40, DoD Directive 4700.4 and 4710.1, and applicable Federal and State regulations and statutes.

The area surrounding Fort Holabird consists primarily of paved surfaces with industrial, residential, and commercial usages. There are very few natural and cultural resources on the property. A limited number of ornamental trees and shrubs exist in the surrounding area. The floral and faunal species are typical of highly disturbed urban and industrial environments. Fort Holabird DIS does not contain any wetlands and is not in an established floodplain area. No endangered species are known to inhabit the property.

There are no archaeological sites, significant cultural resources, cemeteries, burial grounds, historic/architectural investigations or National Register sites identified on, or associated with, the Fort Holabird DIS property (USACE, 1991).



### **3.4 ENVIRONMENTAL CONDITION OF PROPERTY**

In October 1992, Public Law 102-426 (CERFA) amended Section 120(h) of CERCLA and established new requirements with respect to contamination assessment, cleanup, and regulatory agency notification/ concurrence for Federal facility closures. CERFA requires the Federal government, prior to termination of Federal activities of real property, to identify property where no hazardous substances were stored, released, or disposed. The primary objective of CERFA is for Federal agencies to expeditiously identify real property offering the greatest opportunity for immediate reuse and redevelopment. Although CERFA does not mandate the U.S. Army to transfer real property so identified, the first step in satisfying the objective is the requirement to identify real property where no CERCLA-regulated hazardous substances or petroleum products were stored, released, or disposed.

The environmental condition of the Fort Holabird DIS property is provided in Figure 3-2. This map is based on the CERFA Letter Report. Fort Holabird DIS was parcelized based on seven categories of environmental condition. The following subsections describe each category. The eighth subsection lists parcels which are suitable for transfer. The parcels presented in Figure 3-2 are described in Table 3-9.

#### **3.4.1 Category 1: Areas Where No Release or Disposal (Including Migration) of Hazardous Substances or Petroleum Products Has Occurred**

This area type is defined as a geographically contiguous and mappable area where the results of investigations show that no hazardous substances or petroleum products were released into the environment or site structures, or disposed of on site property (including no migration of these substances from adjacent areas). This area type is color-coded white in Figure 3-4. A determination of this area type cannot be made, however, unless a minimum level of information gathering and assessment has been completed. In accordance with Section 120(h)(4) of CERCLA as amended by CERFA, all such determinations (i.e., "uncontaminated") of this area type must be made on the basis of: a records search of the area in question and adjacent property; a review of the chain of title documents for the area; a review of aerial photographs of the area; a visual inspection of the area and adjacent property; and interviews with current and former employees regarding their knowledge of past and current activities on the property. These efforts can be functionally accomplished via an EBS or properly scoped Preliminary Assessment of the property in question. If information gathered from these efforts indicates that hazardous substances or petroleum products have been released, disposed of, or stored in the area, the geographic location becomes one of the other area types.

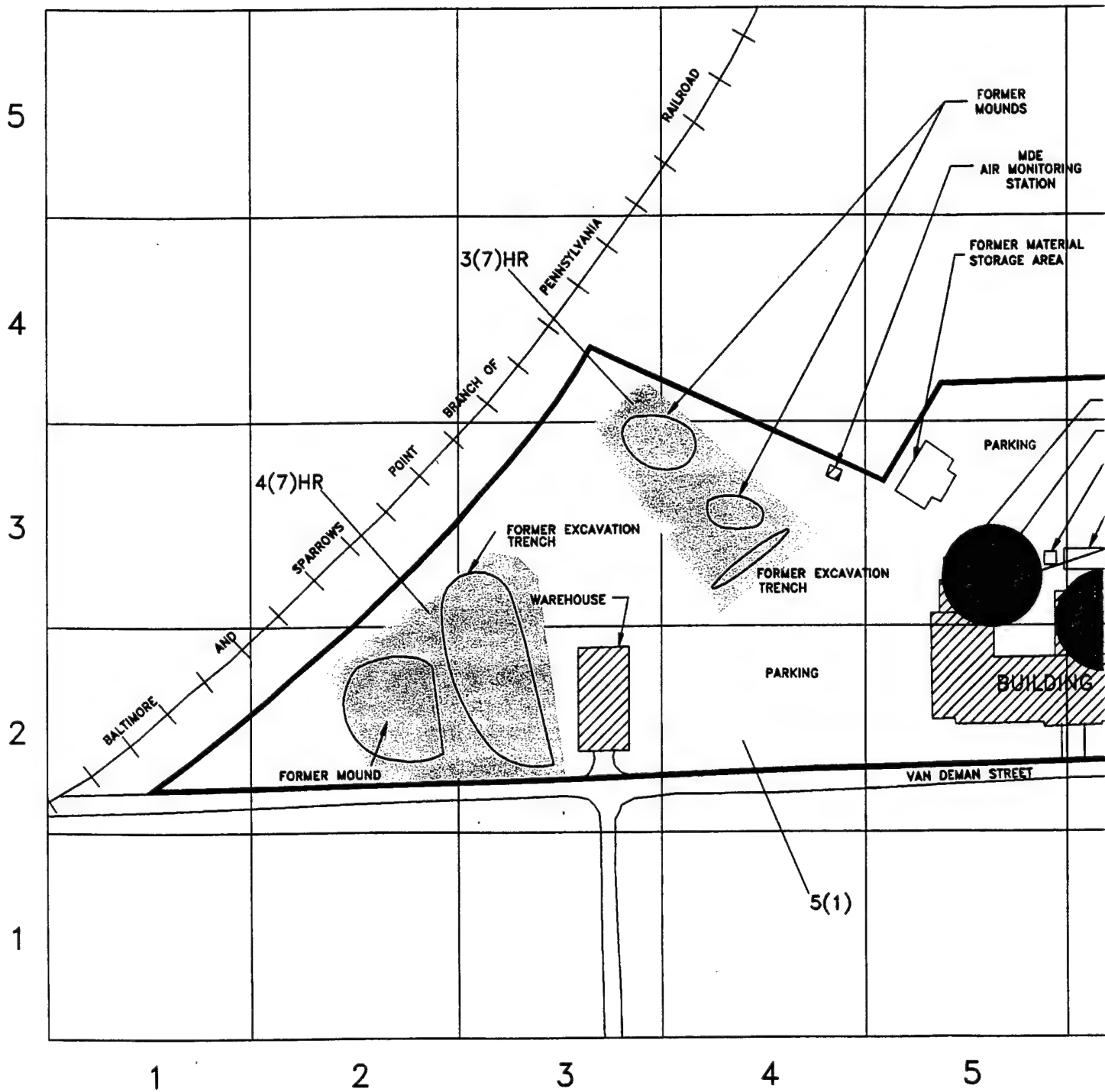
#### **3.4.2 Category 2: Areas Where Only Release or Disposal of Petroleum Products Has Occurred**

This area type is defined as a geographically contiguous and mappable area where the results of investigations show only the release or disposal of petroleum products has occurred. This area type is color-coded blue in Figure 3-4. A determination of this area type must be made in accordance with the same requirements in Section 120(h)(4) of CERCLA as listed in the above paragraph.

#### **3.4.3 Category 3: Areas Where Release, Disposal, and/or Migration of Hazardous Substances Have Occurred but Require No Remedial Action**

This area type is defined as a geographically contiguous and mappable area where environmental evidence demonstrates that hazardous substances have been released or disposed, but are present at concentrations that require no response action to protect human health and the environment. This area type is color-coded light green in Figure 3-4.

It should be noted that the designation of a Category 3 area cannot be made with confidence unless a minimum level of information gathering and assessment has been completed. As such, all determinations should be made on the basis of a Site Inspection, or equivalent level of effort, which includes biased field sampling and laboratory analysis to support a conceptual understanding of the area.



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SCALE

(1)

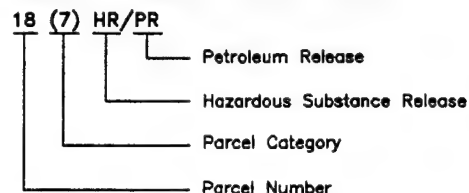
## PARCEL CATEGORIES\*

CATEGORY	COLOR	DEFINITION
1	White	Areas where no release or disposal of hazardous substances or petroleum products has occurred.
2**	Blue	Areas where only release or disposal of petroleum products has occurred.
3	Lt. Green	Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action.
4	Dk. Green	Areas where release, disposal, and/or migration of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken.
5	Yellow	Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are under way, but all required remedial actions have not yet been taken.
6	Red	Areas where release, disposal, and/or migration of hazardous substances has occurred, but required actions have not yet been implemented.
7	Gray	Areas that are not evaluated or require additional evaluation

\*CERFA Parcel Categories reflect the September 1996 Addendum to the Fall 1995 BRAC Guidance.

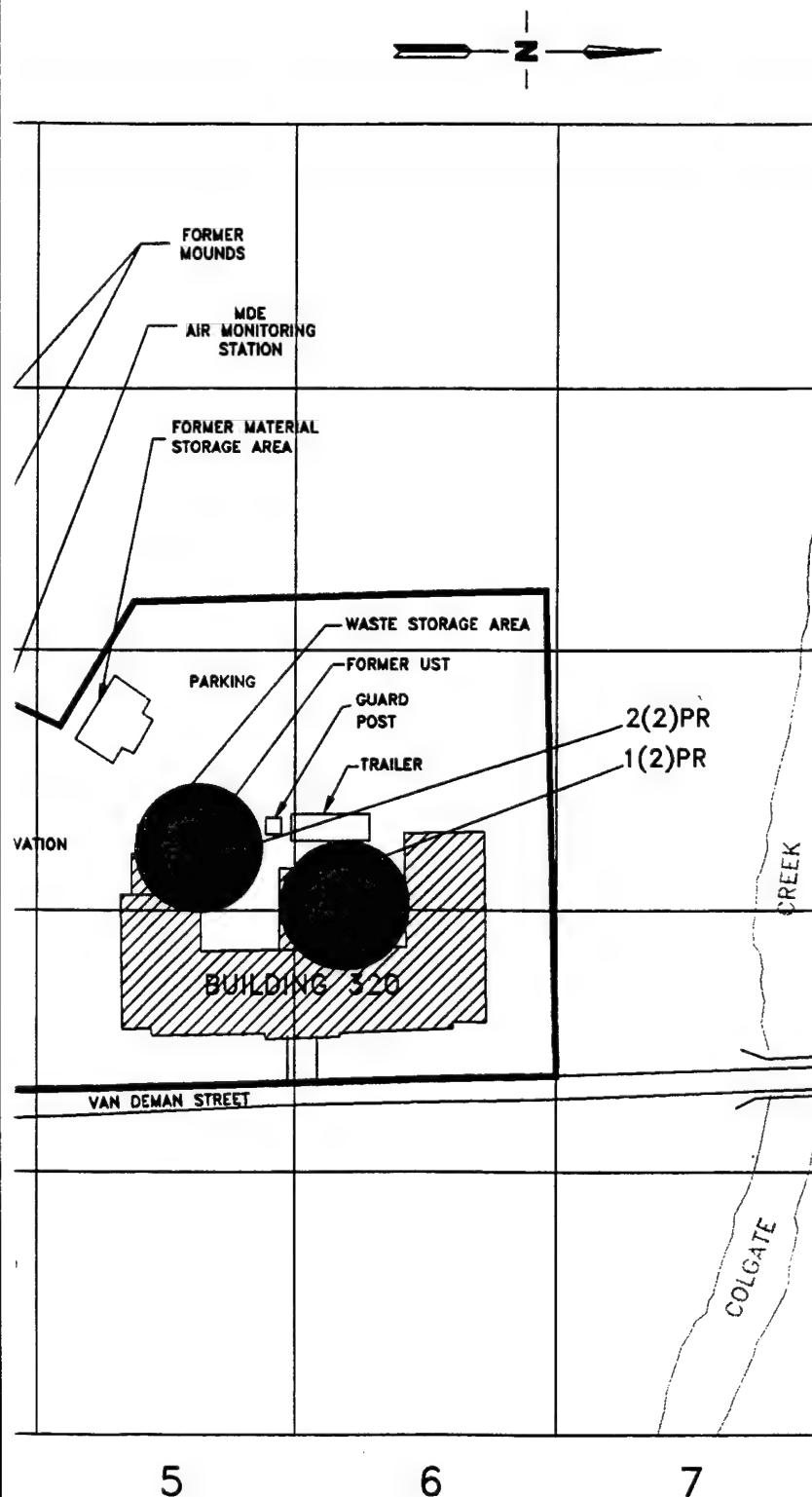
\*\*Release from a UST or AST is indicated by a 0.25-acre diameter circle around the tank

## PARCEL LABEL DEFINITIONS



## LEGEND

- BUILDING/STRUCTURE
- REMOVED BUILDING/STRUCTURE OR DELINEATED FORMER STORAGE LOCATION
- ROADS, PARKING, ETC., PAVED
- BRAC PROPERTY BOUNDARY
- RAILROAD
- ASTS
- USTS
- MONITORING WELL



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SCALE FEET

DEPARTMENT OF THE ARMY

## U.S. Army Environmental Center

CONTRACT NO. DACA31-94-D-0064

FIGURE 3-2  
FORT HOLABRO DIS

ICF KASER ENGINEERS 2113 Emmorton Park Road  
Edgewood, Maryland 21040  
(410) 612-6360

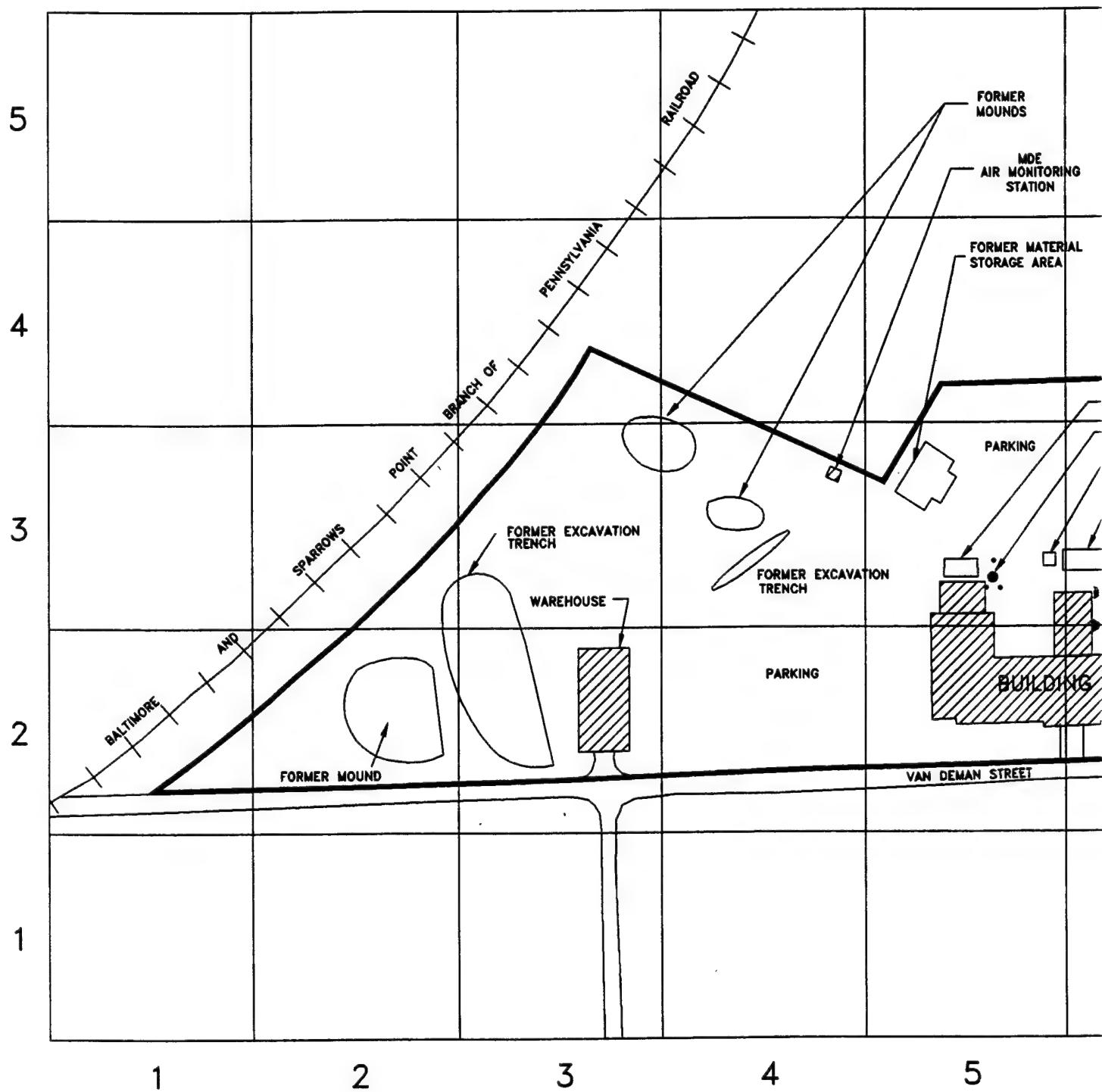
PREPARED RRC TASK NO. 66226

CHECKED T. LONGE ICF DWG NO.

DATE 14-28-93

CERFA PARCEL  
DESIGNATION MAP

(2)

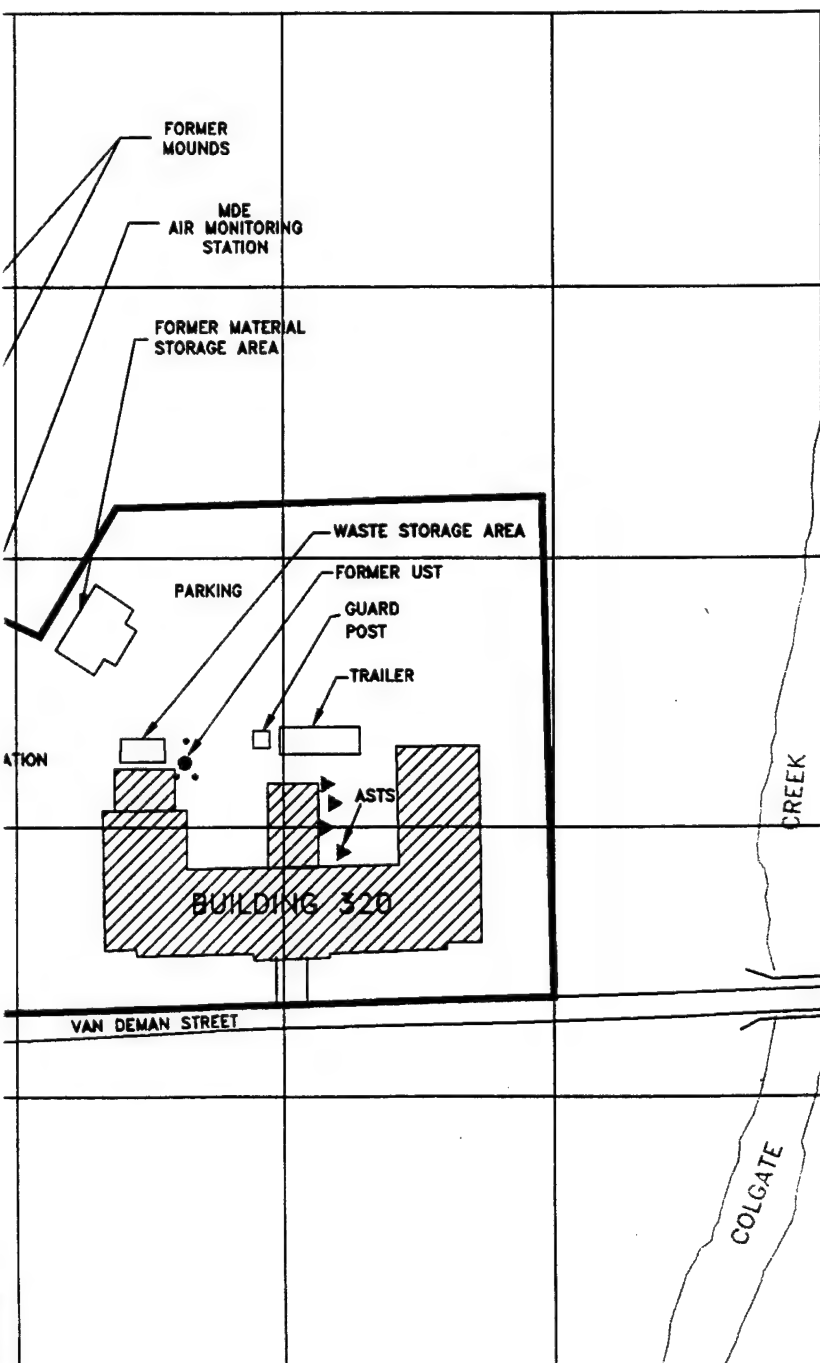
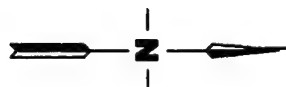


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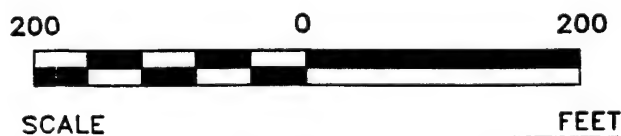
SCALE

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### LEGEND

- BUILDING/STRUCTURE
- REMOVED BUILDING/STRUCTURE OR DELINEATED FORMER STORAGE LOCATION
- ROADS, PARKING, ETC, PAVED
- BRAC PROPERTY BOUNDARY
- RAILROAD
- ASTS
- USTS
- MONITORING WELL



DEPARTMENT OF THE ARMY			
<b>U.S. Army Environmental Center</b>			
CONTRACT NO. DACA31-84-D-0084		FIGURE 1-2 FORT HOLABIRD DIS	
<b>KP KAMBER ENGINEERS</b>		2113 Emmorton Park Road Edgewood, Maryland 21040 (410) 812-6350	
PREPARED BY	NRG	TASK NO.	66226
CHECKED	T. LONGE	ICF DWG NO.	1FHBOP1-2
DATE 84-28-88		LOCATION OF USTS ASTS, AND PAST HAZARDOUS SUBSTANCE ACTIVITIES	

(2)

**Table 3-9. CERFA Parcel Descriptions**

Parcel No.	Description	Color
1(2)PR	Former UST Spill Area	Blue
2(2)PR	AST Spill Area	Blue
3(7)HR	Former mounds and excavation trench	Gray
4(7)HR	Former mounds and excavation trench	Gray
5(1)	Building 320, Warehouse, Guard Post, Trailer, and Parking Lot	White

#### **3.4.4 Category 4: Areas Where Release, Disposal, and/or Migration of Hazardous Substances Have Occurred and All Remedial Actions Have Been Taken**

This area type is defined as a geographically contiguous and mappable area where all RAs necessary to protect human health and the environment have been conducted. This area type is color-coded dark green in Figure 3-4. Category 4 areas include those areas in which an EBS report documents that hazardous substances are known to have been released or disposed of on the property, but all RAs necessary to protect human health and the environment, with respect to any hazardous substances remaining on the property, have already been taken to meet the provisions of CERCLA Section 120(h)(3). Clarification of the meaning of "all remedial action has been taken" is found in Section 12(h)(4)(B)(i) of CERCLA. BRAC Cleanup Teams preparing suitability of property for transfer maps should be aware that "all remedial action has been taken" means that the construction and installation of an approved remedial design has been completed and that the remedy has been demonstrated to USEPA to be operating properly and successfully (in practice, usually a year).

#### **3.4.5 Category 5: Areas Where Release, Disposal and/or Migration of Hazardous Substances Have Occurred and Action is Underway but Not Final**

This area type is defined as a geographically contiguous and mappable area where the presence of sources or releases of hazardous substances is confirmed based on the results of sampling and analysis available in electronic databases and/or environmental restoration and compliance reports. This area type is color-coded yellow in Figure 3-4. By definition, this area type contains contaminant concentrations above action levels. Such concentrations do not meet the criteria that would allow a determination of a Category 3 area. Remedial systems for Category 5 areas are partially or entirely in place but have not been fully demonstrated.

#### **3.4.6 Category 6: Areas Where Release, Disposal, and/or Migration of Hazardous Substances Has Occurred, but Required Response Actions Have Not Been Taken**

This area type is defined as a geographically contiguous and mappable area where the presence of sources or releases of hazardous substances is confirmed based on the results of sampling and analysis as contained in electronic databases and/or environmental restoration and compliance reports. This area type is color-coded red in Figure 3-4. This area type contains concentrations of contaminants above action levels. Such concentrations do not meet the criteria that would allow a determination of a Category 3 area. Additionally, required remedial systems have not been selected or implemented.

#### **3.4.7 Category 7: Areas Not Evaluated or Require Additional Evaluation**

This area type is defined as a geographically contiguous and mappable area where the presence of sources or releases of hazardous substances or petroleum products (including derivatives) is suspected, but not well characterized, based on the results of a properly scoped records search, chain of title review, aerial photography review, visual inspection, set of employee interviews, and possibly sampling and analysis. This area type is color-coded gray in Figure 3-4. They do not, with certainty, fit

any of the previous area types because evaluation efforts have not occurred, are ongoing, or are inconclusive.

### **3.4.8 Suitability of Installation Property for Transfer by Deed**

SARA Title I, Section 120 of CERCLA requires that any deed for transferred federal property on which any hazardous substance was stored for one year or more, known to have been released, or known to have been disposed of, contain, to the extent that such information is available based on a complete search of agency files, the following information:

- A notice of the type and quantity of such hazardous substances;
- A notice of the time at which such storage, release, or disposal took place;
- A description of the RA taken, if any; and
- A covenant warranting that all RAs necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer, and any additional RAs found to be necessary after the date of such transfer shall be conducted.

The U.S. Army has begun the identification of property suitable for transfer under CERCLA through the CERFA identification process. The CERFA process is a screening mechanism to identify those properties immediately transferable. Figure 3-3, when completed, will identify the parcels at Fort Holabird DIS that are immediately transferable. These properties have had no activities which could potentially preclude them from transfer under CERCLA.

### **3.5 STATUS OF COMMUNITY INVOLVEMENT**

Information on the following community relations activities that may take place at Fort Holabird DIS is to be provided by the BCT:

- NEPA Process;
- Federal Facility Agreement (FFA) Process;
- Information Repositories;
- Administrative Record;
- Community Relations Plan;
- Restoration Advisory Board;
- Technical Assistance Grant;
- Mailing List;
- Fact Sheets;
- Open Houses; and
- Proposed Plan Hearings.

Suitability for transfer of properties has not been determined at this time.  
Future changes will be reflected here.

**Figure 3-3. Suitability of Property for Transfer**



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## 4.0 INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL RESTORATION

This section describes and summarizes the installation-wide environmental restoration and compliance strategy for Fort Holabird DIS. With the closure announcement, the installation's strategy shifted from supporting an active U.S. Army mission to responding to disposal and reuse considerations. Accordingly, an EBS has been conducted and a final report issued in April 1998. A sampling and analysis recommendation (SAR) was also developed for areas that require additional information and the draft final submitted in March 1996. The site tenant operations moved to Linthicum, MD in July 1996.

Only limited information on Fort Holabird DIS's environmental strategy is available at this time. The strategy for determining the most effective response mechanism for contaminant sources and contaminated areas during the early stages of the restoration process at the installation, will be developed on a case-by-case basis by the BCT. The BCT will develop a comprehensive strategy to identify the appropriate regulatory programs applicable to the areas of contamination identified in the EBS.

### 4.1 ZONE/OPERABLE UNIT DESIGNATION AND STRATEGY

Zones are defined as geographically contiguous areas amenable to management as a single investigative unit. They are tools for organizing and defining areas of investigation. Zones can be used to group multiple sites and environmental data collected during one or more investigations into related geographic areas for detailed mapping, and to facilitate the development of conceptual models or sources, migration pathways, and receptors. Zones are distinct from operable unit (OU) response actions.

Operable units define an installation's remedial strategy. They are derived from an evaluation of hydrogeologic and chemical analytical data within an investigative zone, or by comparing data between zones. Operable unit types may be based on geographic area, common media (soil, groundwater, surface water, etc.), common treatment technology, priorities, or schedules. Operable units establish a logical sequence of discussions that address contamination releases in a comprehensive fashion.

#### 4.1.1 Zone Designations

In response to U.S. Army base closure environmental restoration goals, restoration sites requiring further action at Fort Holabird DIS may be grouped into zones as defined above. Conceptual models of sources, contaminant migration, and receptors developed for these zones can provide a basis for defining a comprehensive OU strategy.

#### 4.1.2 Operable Unit Designations

Operable units are defined as discrete response actions or steps toward comprehensive environmental restoration and may be further subdivided or integrated where conceptual models of sources, contaminant migration, and receptors indicate the need for delineation of source-control and groundwater response actions. Operable units are not necessarily equivalent to zones. Table 4-1 will depict the relationships between OUs, zones, CERFA parcels, and site descriptions.

**Table 4-1. Relationship Between Operable Units, Zones, Parcels, and Sites**

Operable Unit	Zone	CERFA Parcel	Site Description
Operable units and zones have not been established for Fort Holabird DIS nor has it been parcelized for reuse and disposal yet. Future changes will be reflected here.			

#### 4.1.3 Sequence of Operable Units

A comprehensive OU strategy will be developed by the Fort Holabird DIS BCT. The strategy will consolidate restoration sites into zones for investigation, and then define a logical sequence of OUs addressing all past releases associated with these sites. The site cleanup sequence at Fort Holabird DIS will be summarized in Table 4-2. Figure 4-1 will identify the timeline for generation of primary documents

necessary to complete site cleanup actions. The schedule will be developed using a critical path analysis method.

**Table 4-2. Cleanup Sequence**

Reuse Parcel	Site	Environmental Risk	Reuse Priority	Cleanup Sequence	Reconcile Comments
The cleanup sequence at Fort Holabird DIS has not been established at this time. Future changes will be reflected here.					

#### 4.1.4 Environmental Early Actions Strategy

The BCT will identify early actions that would accelerate cleanup activities. Information of additional removal actions, interim remedial actions, or treatability studies will be provided by the BCT. Table 4-3 will identify the planned early restoration actions for Fort Holabird DIS.

**Table 4-3. Environmental Restoration Planned Early Actions**

Site	Action	Objective	Time Frame
The BCT has not identified any restoration early actions for Fort Holabird DIS. Future changes will be reflected here.			

#### 4.1.5 Remedy Selection Approach

Remedies will be selected for the appropriate OUs after adequate characterization of the nature and extent of contamination has been completed. The remedies will be selected in accordance with statutory and National Oil and Hazardous Substance Pollution Contingency Plan (NCP) criteria. The Fort Holabird DIS BCT will involve all parties, who have an impact on the actions selected at the installation, in the remedy selection process. Particular attention will be given to the following during the evaluation of alternatives:

- **Applicable or Relevant and Appropriate Requirements (ARARs).** Applicable requirements for anticipated RAs will be identified by the BCT. The effectiveness of alternatives in reducing concentrations of contaminants below chemical-specific ARARs will be evaluated. Waivers will be considered where treatment to standards is technically impractical;
- **Land Use/Risk Assessment.** Risk assessment protocols will incorporate future land use in exposure scenarios;
- **Applicable Remedies.** The presumptive remedy selection approach advocated in USEPA's 30-day study will be applied in selected cases. Focused Feasibility Studies (FFS) will be developed where appropriate; and
- **Future Land Use.** Cleanup goals need to be factored into future land use and/or deed restrictions.

The BEC will hold Project Team meetings to discuss conceptual remedies early in the FS process during the initial screening of alternatives (ISA) stage to ensure the FS focuses on the appropriate types of remedies for each site or OU.

The sequence and timelines for OUs have not been determined at this time.  
Future changes will be reflected here.

**Figure 4-1. Sequence and Primary Document Timeline for Operable Units**

## 4.2 COMPLIANCE STRATEGY

This section describes the strategies for addressing compliance-related environmental issues at Fort Holabird DIS prior to closure and/or property transfer. These environmental compliance strategies have been developed to ensure that installations are compliant with Federal and State regulatory programs, as well as DoD and U.S. Army directives and regulations throughout the BRAC process. There are no environmental compliance early actions planned for Fort Holabird DIS at this time. Table 4-4, when completed, will identify the environmental compliance early actions for the property.

**Table 4-4. Environmental Compliance Planned Early Actions**

Site	Action	Objective	Time Frame
The BCT has not identified any compliance early actions for Fort Holabird DIS. Future changes will be reflected here.			

### 4.2.1 Storage Tanks

One UST was removed in 1986 and no known USTs are currently in operation at Fort Holabird DIS. Four monitoring wells were installed at this time and free product bailed until none remained in the wells. The underground lines leading to the four ASTs currently on site were removed and replaced with above-ground lines. Analytical tests of samples from three of the monitoring wells installed at the time of the UST removal, revealed no hydrocarbon contamination. Analytical testing was also conducted for the stockpiled soil excavated from the grassy area around the leaking underground lines leading to the AST before proper removal from the site. The stained soil observed around the 50-gallon diesel day tank during the 1995 site visit was removed as of September 1996. Management of these ASTs continued to meet all Federal and State regulations until DIS operations were moved in July 1996.

### 4.2.2 Hazardous Materials/Waste Management

Limited quantities of chemical solutions used in photographic processing continued to be disposed of in the sanitary sewer system until operations ceased in July 1996.

### 4.2.3 Solid Waste Management

Non-hazardous solid wastes were hauled by contractors and disposed of off site in a State-sanctioned landfill and/or recycled until operations ceased in July 1996.

### 4.2.4 Polychlorinated Biphenyls

Four transformers found to be PCB-contaminated were removed from the site in April and May 1991. All transformers at Fort Holabird DIS are PCB-free.

### 4.2.5 Asbestos

Asbestos management continued as needed until the closure of Fort Holabird DIS.

### 4.2.6 Radon

Testing efforts and information about radon on the Fort Holabird DIS property are not available at this time. Corrective actions would have been implemented had the results of the radon testing revealed non-acceptable levels in Building 320.

### 4.2.7 RCRA Facilities

Fort Holabird DIS does not have any RCRA permitted facilities.

#### **4.2.8 NPDES Permits**

National pollutant discharge elimination system (NPDES) permits are not required at Fort Holabird DIS.

#### **4.2.9 Oil/Water Separators**

No oil/water separators exist on the Fort Holabird DIS property; therefore, there are no compliance requirements or strategies for this program.

#### **4.2.10 Lead-Based Paint**

A lead-based paint (LBP) survey has been conducted for Building 320; however, the results were unavailable for review because the document cannot be located. Lead-based paint is expected to be present in the building because it was built before 1978. The storage warehouse, the trailer and the guardpost are not expected to have LBP because they were built after 1978. No abatement has been performed except some limited removal in the boiler room during the removal of a PCB-containing transformer in 1991.

#### **4.2.11 Unexploded Ordnance**

No UXO was identified on Fort Holabird DIS; therefore, there are no compliance requirements or strategies for this program.

#### **4.2.12 NRC Licensing**

There were no Nuclear Regulatory Commission (NRC) licenses for Fort Holabird DIS; therefore, there are no compliance requirements or strategies for this program.

#### **4.2.13 Pollution Prevention**

Fort Holabird DIS continued to practice pollution prevention until closure in July 1996.

#### **4.2.14 Mixed Waste**

Mixed waste was not generated at Fort Holabird DIS; therefore, there are no compliance requirements or strategies for this program.

#### **4.2.15 Radiation**

There were no radiation compliance issues at Fort Holabird DIS; therefore, there are no compliance requirements or strategies for this program.

#### **4.2.16 National Environmental Policy Act**

An Environmental Impact Statement (EIS) for the transfer of Fort Holabird DIS has not been performed. Additional information on NEPA documentation will be provided by the BCT.

#### **4.2.17 Medical Waste**

Medical waste was not generated by Fort Holabird DIS; therefore, there are no compliance requirements or strategies for this program.

#### **4.2.18 Air Permits**

Fort Holabird DIS had two permits for two burners. Fort Holabird DIS continued to comply with applicable air requirements and regulations. The MDE air monitoring stations is continuing its operations on base.

### 4.3 NATURAL AND CULTURAL RESOURCES STRATEGIES

This section discusses the strategies that will be developed for natural and cultural resource programs at Fort Holabird DIS in an effort to manage these resources throughout the BRAC cleanup and installation closure process. Due to the industrial nature of Fort Holabird DIS and its surroundings, there are little-to-no sensitive resources remaining in the area. Current practices with regard to preserving the natural environment of Fort Holabird DIS will continue.

#### 4.3.1 Other Resources

At this time, no other natural or cultural resources have been identified at Fort Holabird DIS.

### 4.4 COMMUNITY INVOLVEMENT/STRATEGY

A Community Relations Plan (CRP) will be needed to facilitate communication among the U.S. Army, other Federal, State, or local agencies, and interested groups and other community residents concerning restoration activities at Fort Holabird DIS. This communication will ensure that all parties involved or interested are provided accurate, consistent information in a timely manner concerning related cleanup activities, contaminants, and possible effects of any contamination. It will provide mechanisms for all parties to provide input into the decision-making process of the environmental restoration program.

It is recommended that the Fort Holabird DIS BCT adopt the following strategy to support a proactive community relations program in accordance with the CERCLA requirements:

- Develop a CRP;
- Develop Proposed Plans (PPs) and issue PP fact sheets. Issue public notice two weeks in advance of public comment periods on these plans in local newspapers;
- Hold 30-day public comment periods on PPs, and respond to all comments in a responsiveness summary;
- Hold regular Restoration Advisory Board (RAB) and NEPA meetings;
- Hold informal and formal public meetings as required during the response process;
- Provide an opportunity for public comment on removal actions;
- Maintain an information repository at the installation; and
- Publish facts sheets on the progress of environmental restoration and disposal programs.

## **5.0 ENVIRONMENTAL PROGRAM MASTER SCHEDULES**

Master Schedules of anticipated activities in Fort Holabird DIS's environmental programs will include the following: environmental restoration activities, compliance activities, and natural and cultural resources activities. These schedules will be developed from detailed network and operational schedules that will be prepared to support site-specific work plans and compliance agreements. Each of these schedules will display the critical path analysis for the respective installation program. Fort Holabird DIS Master Schedules of anticipated activities in the installation's environmental programs have not yet been developed.

### **5.1 ENVIRONMENTAL RESTORATION PROGRAM**

This section presents response schedules and outlines fiscal year requirements for Fort Holabird DIS's environmental restoration program.

#### **5.1.1 Response Schedules**

The schedule for environmental response actions for Fort Holabird DIS will be detailed in Figure 5-1. The installation's ability to meet the milestones of the schedule hinges on (1) the preparation of draft reports and baseline risk assessments (i.e., not impeded by discovery of additional sources in the zones/OU's), and (2) expedited review of submitted documents. The following actions will be taken by the BCT to expedite the schedule:

- Draft documents will be reviewed in a timely fashion;
- Documents will be revised for quick turnaround; and
- Concerted effort to obtain missing or unknown information will be expedited.

#### **5.1.2 Funding Requirements by Fiscal Year**

The detailed funding requirements information by fiscal year (FY) for projected environmental restoration programs will be presented in Appendix A-1. This information is not available at this time.

### **5.2 COMPLIANCE PROGRAMS**

This section presents master compliance schedules and outlines FY requirements for Fort Holabird DIS's environmental compliance programs.

#### **5.2.1 Master Compliance Schedules**

There are no mission/operational-related compliance programs or closure-related compliance programs for Fort Holabird DIS at this time. Therefore, there are no compliance schedules for these programs. If necessary, they will be provided as Figure 5-2 and Figure 5-3, respectively.

#### **5.2.2 Funding Requirements by Fiscal Year**

The detailed funding requirements information by FY for projected environmental compliance programs will be presented in Appendix A-2. This information is not available at this time.

### **5.3 NATURAL AND CULTURAL RESOURCES PROGRAMS**

This section presents master natural and cultural resources activity schedules and outlines FY requirements for Fort Holabird DIS's natural and cultural resources programs.

#### **5.3.1 Natural and Cultural Resources Schedule**

There are no natural and cultural resources programs for Fort Holabird DIS at this time. If necessary, they will be provided as Figure 5-4.



An environmental restoration schedule has not been prepared at this time.  
Future changes will be reflected here.

**Figure 5-1. Projected Master Restoration Schedule**

A mission/operational-related compliance schedule has not been prepared at this time.  
Future changes will be reflected here.

**Figure 5-2. Projected Master Schedule for Mission/Operational-Related Compliance Programs**

A closure-related compliance schedule has not been prepared at this time.  
Future changes will be reflected here.

**Figure 5-3. Projected Master Schedule for Closure-Related Compliance Programs**

A natural and cultural resources schedule has not been prepared at this time.  
Future changes will be reflected here.

**Figure 5-4. Projected Schedule for Natural Cultural Resources Activities**

### 5.3.2 Funding Requirements by Fiscal Year

The detailed funding requirements information by FY for projected cultural and natural resources programs will be presented in Appendix A-3. This information is not available at this time.

### 5.4 BCT/PROJECT MEETING SCHEDULE

Meetings are planned to promote an expedited restoration schedule for base closure or realignment sites. Meetings are scheduled as required by the applicable process and are typically held as follows:

- BCT Meetings - monthly or as needed;
- Document Presentation Meetings - within 10 days of document submittal;
- Technical/Issue Resolution Meetings - as necessary to facilitate continued movement of the restoration program or compliance activities;
- Restoration Advisory Board - monthly or as needed; and
- BRAC In-Progress Review Meetings - weekly, monthly or as necessary.

There are currently no scheduled meetings for Fort Holabird DIS. Future changes will be reflected in Table 5-1.

**Table 5-1. BCT Meeting Schedule**

Date/Frequency	Topic
Information to the BCT meeting schedule will be updated as it becomes available.	

## **6.0 TECHNICAL AND OTHER ISSUES TO BE RESOLVED**

This chapter summarizes technical and other issues that are yet to be resolved. These issues include information management, the usability of historical data, data gaps, natural (background) levels of elements and compounds in soil, groundwater, surface water, and sediment; risk assessment; State cleanup standards; and program initiatives to complete cleanup requirements as required to meet property transfer schedules. Information pertaining to these issues at Fort Holabird DIS is not available at this time.

### **6.1 DATA USABILITY**

This section summarizes issues that need to be resolved with regard to managing information gathered and used in the base environmental restoration and compliance programs.

#### **6.1.1 BCT Action Items**

Future action items may focus on improving coordination of, access to, and management of environmental restoration and real estate-type data generated at Fort Holabird DIS.

#### **6.1.2 Rationale**

As the number of agencies and contractors associated with the Fort Holabird DIS disposal and environmental restoration program grows, it will be important that all parties involved be able to share data for decision making. The establishment and maintenance of an electronic database of sampling and analysis data and spatial data (e.g. real estate maps) is the most efficient method of sharing data among parties.

#### **6.1.3 Status/Strategy**

Strategies have been developed to address the data usability requirement as part of the Quality Assurance program for Fort Holabird DIS. Data Quality Objectives (DQOs) have been developed to ensure data collected during field investigation/RA process will be of known defensible quality suitable for achieving project objectives.

### **6.2 DATA INTEGRATION AND MANAGEMENT**

This section summarizes unresolved issues pertaining to the validity of using historical data sets in the installation environmental restoration program. Future action items may focus on continuing to ensure the acceptability of data generated through: 1) compliance with USEPA guidance on data validation; and 2) execution of field work in accordance with procedures established in approved Sampling and Analysis Plans (SAP).

#### **6.2.1 BCT Action Items**

The BCT will continue to ensure all parties involved in environmental restoration activities at Fort Holabird DIS are able to share data for decision making.

#### **6.2.2 Rationale**

Historical analytical data can contribute to the completion of site characterizations and risk assessments by filling data gaps. Current and future data from each data collection system (e.g., field laboratories, field screening techniques) are critical to the completion of all site characterization efforts, comprehensive conceptual model development, risk assessments, and ultimately the selection of RAs to protect human health and the environment.

#### **6.2.3 Status/Strategy**

Data gathered for environmental restoration efforts at Fort Holabird DIS are stored in database format.

### **6.3 DATA GAPS**

This section summarizes unresolved issues pertaining to the determination and collection of data needed to complete the Fort Holabird DIS environmental restoration program.

#### **6.3.1 BCT Action Items**

Future action items may include the assessment of data gaps for the ongoing development of an environmental restoration strategy.

#### **6.3.2 Rationale**

Effective identification and filling of data gaps will permit the development of comprehensive conceptual site models for site characterization and risk assessment. Effective analysis of data gaps will also facilitate the completion of investigation efforts so that appropriate RAs can be identified and evaluated. This information will also facilitate the identification of clean areas at Fort Holabird DIS.

#### **6.3.3 Status/Strategy**

Because there are no BCT action items for data gap issues, there is no strategy. Future strategy may incorporate the use of BCT meetings to resolve data gap issues prior to the execution of additional field work.

### **6.4 BACKGROUND LEVELS**

This section summarizes unresolved issues pertaining to documenting background levels for the Fort Holabird DIS environmental restoration program.

#### **6.4.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may focus on establishing background concentrations of elements in the environment at Fort Holabird DIS for use in baseline risk assessment computations.

#### **6.4.2 Rationale**

Background concentration values of analytes in the soil, groundwater, surface water, and sediment need to be determined before risk assessments can be conducted. The values must be representative of analyte concentrations which are naturally occurring and analyte concentrations which are due to anthropogenic sources. The EPA and MDE regulators must concur with these values.

#### **6.4.3 Status/Strategy**

Because there are no BCT action items for background level issues, there is no strategy.

### **6.5 RISK ASSESSMENT**

This section summarizes unresolved issues pertaining to the completion of risk assessments required to complete the Fort Holabird DIS environmental restoration and compliance programs.

#### **6.5.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include continuing to evaluate the role of anticipated land use as a criterion in selection assumptions in the exposure assessment.

#### **6.5.2 Rationale**

Anticipated or known land uses at Fort Holabird DIS need to be considered in exposure assessment assumptions.

### **6.5.3 Status/Strategy**

Because there are no BCT action items that apply to risk assessment procedures at Fort Holabird DIS, there is no strategy. Future strategy may incorporate the development of risk assessment protocols.

## **6.6 INSTALLATION-WIDE REMEDIAL ACTION STRATEGY**

This section summarizes unresolved issues pertaining to an installation-wide remedial action strategy. A remedial action strategy has not been developed for Fort Holabird DIS to address the ongoing environmental restorations. Once developed, the future land use risk assessment for remedy selections will be presented in Table 6-1.

### **6.6.1 BCT Action Items**

No BCT Action items have been identified at Fort Holabird DIS at this time. Future action items may include the development of an installation-wide remedial action strategy.

### **6.6.2 Rationale**

The installation-wide remedial action strategy should be structured to achieve expedited remedial actions while controlling costs.

### **6.6.3 Status/Strategy**

Because there are no BCT action items for installation-wide remedial action issues, there is no strategy.

## **6.7 INTERIM MONITORING OF GROUNDWATER AND SURFACE WATER**

This section summarizes unresolved issues pertaining to monitoring groundwater and surface water.

### **6.7.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time.

### **6.7.2 Rationale**

Long term monitoring may be necessary as part of remedial efforts at selected sites at Fort Holabird DIS.

### **6.7.3 Status/Strategy**

Because there are no BCT action items for interim monitoring, there is no strategy.

## **6.8 EXCAVATION OF CONTAMINATED MATERIALS**

This section summarizes unresolved issues pertaining to the excavation of contaminated materials. At this time, excavation of contaminated material has not been planned at Fort Holabird DIS.

### **6.8.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time.

### **6.8.2 Rationale**

Excavation of contaminated materials may be required as part of the environmental restoration efforts at Fort Holabird DIS.

### **6.8.3 Status/Strategy**

Because there are no BCT action items for excavation issues, there is no strategy.



Table 6-1. Future Land Use Risk Assessment for Development of Remedy Selections

Site	Risks	Contaminants			Current Use	Adjacent Uses	Anticipated Uses
		Groundwater	Soil	Surface Water/ Sediment			
		A land use risk assessment has not been performed for Fort Holabird DIS at this time. Future changes will be reflected here.					

## 6.9 PROTOCOLS FOR REMEDIAL DESIGN REVIEWS

This section summarizes unresolved issues pertaining to the development of protocols for the review of remedial designs. At this time, protocols have not been developed.

### 6.9.1 BCT Action Items

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include the development of protocols for the review of remedial designs.

### 6.9.2 Rationale

Review of remedial designs is critical to insure that they will achieve cleanup goals and that they are technically and administratively feasible.

### 6.9.3 Status/Strategy

Because there are no BCT action items for developing protocols for remedial design reviews, there is no strategy.

## 6.10 CONCEPTUAL MODELS

This section summarizes unresolved issues pertaining to the development of conceptual models for environmental restoration efforts at Fort Holabird DIS. At this time, conceptual site models have not been prepared.

### 6.10.1 BCT Action Items

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include the development of conceptual models.

### 6.10.2 Rationale

The conceptual site models will be developed based on the results of past investigations and ongoing remedial actions.

### 6.10.3 Status/Strategy

Because there are no BCT action items for conceptual models, there is no strategy.

## 6.11 CLEANUP STANDARDS

This section summarizes unresolved issues pertaining to the development of cleanup standards. Cleanup standards will be used to identify remedial alternatives capable of achieving cleanup goals and determine the time at which remediation will be complete. Once Fort Holabird DIS is fully characterized, human health standards for contaminants of concern will be listed in Table 6-2. Additional standards will be presented in subsequent tables as necessary.

**Table 6-2. Human Health Standards**

Contaminant	Concentration Level
Human health standards have not been identified for contamination at Fort Holabird DIS at this time. Future changes will be reflected here.	

### 6.11.1 BCT Action Items

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include confirming the cleanup goals with USEPA and MDE which will be used to remediate sites at Fort Holabird DIS.

### 6.11.2 Rationale

Cleanup standards may be based on ARARs or they may be based on estimates of risk. The ARARs will be identified and risk will be estimated for contaminants of concern. The cleanup standards will be selected after review and evaluation of ARARs, risk assessment, and review of potential land reuse.

### 6.11.3 Status/Strategy

Because there are no BCT action items for cleanup standards, there is no strategy.

## 6.12 INITIATIVES FOR ACCELERATING CLEANUP

This section summarizes unresolved issues pertaining to the development of initiatives for accelerating cleanup at contaminated sites. At this time, cleanup acceleration initiatives have not been formulated. During 1992 and 1993, the U.S. Army developed an acceleration plan that was reviewed and concurred with, by the regulatory agencies. Key points of the plan included:

- Overlap of RCRA Facility Investigation (RFI)/Corrective Measures Study (CMS) and Remedial Design (RD)/RA phases;
- Acceleration of procurement actions;
- Concurrent U.S. Army/regulatory review of all work plans, RFI/CMS reports, and secondary documents;
- Compression of time allocated to produce revised documents and comment response packages;
- Compression of field schedules;
- Supplementing existing work plans for future work instead of producing new work plans (includes Quality Assurance Project Plans and Health and Safety Plans);
- Initiating field work after review and resolution of comments on draft work plans; and
- Using RFI data packages as the decision point for NFRAP, RAs, or continued study.

Fort Holabird DIS will incorporate these key points whenever possible in their restoration program.

### 6.12.1 BCT Action Items

No BCT action items have been identified at Fort Holabird DIS at this time.

### 6.12.2 Rationale

It is desirable to initiate accelerated cleanups at Fort Holabird DIS to facilitate the property transfer process.

### 6.12.3 Status/Strategy

Because there are no BCT action items for accelerating cleanups, there is no strategy. Initiatives for accelerating cleanup that can be implemented by the BCT include the following:

- Evaluate the use of OUs that reflect current environmental restoration investigations to expedite the investigation and review process;
- Target Source Areas - Target source areas for early RAs;

- Identify ARARs - Early in the project, develop a list of ARARs by obtaining lists of ARARs from the State and other agencies and examine the RODs for similar sites in the same state to identify which ARARs are likely to apply;
- Risk-based Cleanup - Pursue negotiations with the regulators to agree on risk-based cleanup standards based on future land usage;
- Agreements - The use of Interagency Agreement, FFAs, and DoD/Maryland Memorandum of Agreement to implement agreements and expedite cleanup, needs to be explored;
- Defined Document Review Process - Negotiate terms with the regulatory reviewers to streamline the review process by agreeing to a definitive time cycle (such as 12 months) from the submittal of a draft FS/PP to the signing of a ROD;
- Concurrent Reviews - Develop a complete list of reviewers early and pursue parallel review tracks to eliminate delays;
- Team Approach - Build a strong team, consisting of the BEC, USAEC and USACE representatives, contractors, and Federal and Maryland regulatory personnel, that has the authority, responsibility, and accountability for implementing innovative solutions to remediate and close sites in a timely, cost-effective manner;
- Joint Preparation - Expedite the document preparation and review/approval by forming a working team with USEPA and MDE when preparing required documents such as DDs and RODs;
- Community Involvement - Involve the community during the remedial process to encourage support at the time of site closure. By informing the community during the process, the likelihood of opposing comments during the public comment period will be lessened;
- Concurrent PP and ROD/DD - Prepare the PP and the draft ROD or DD concurrently to facilitate simultaneous review by DoD, USEPA, and/or MDE. Remain flexible as comments to the PP may result in changes to the ROD/DD;
- Innovative Technologies - Pursue collaborative projects using innovative technologies being researched at the USAEC or USACE, or those suggested by the contractor;
- Generic Procedures - Develop generic procedures and Scopes of Work for common problems or common types of contaminated sites (such as fuel contamination in soil). These procedures should be flexible enough for site-specific modifications to be made;
- Innovative Contracting - Maximize flexibility of contracting procedures, investigate the use of level-of-effort, direct/cost reimbursement, award incentives, and other flexible contracting methods; and
- Personnel and Resource - Determine personnel expertise and funding required to handle existing and proposed environmental restoration/compliance programs, including support to the Technical Review Committee (TRC) and the CRP.

### 6.13 REMEDIAL ACTIONS

This section summarizes unresolved issues pertaining to the execution and completion of remedial actions.

#### 6.13.1 BCT Action Items

No BCT action items have been identified at Fort Holabird DIS at this time.

#### 6.13.2 Rationale

Technical issues must be addressed in a timely manner to insure that the RA schedules are not adversely affected. It is desirable that RAs required at Fort Holabird DIS be completed at closure.

### **6.13.3 Status/Strategy**

Because there are no BCT action items for RAs, there is no strategy.

## **6.14 REVIEW OF AND APPLICATION OF SELECTED TECHNOLOGIES FOR EXPEDITED SOLUTIONS**

This section summarizes unresolved issues pertaining to the review and application of selected technologies to expedite remedial solutions.

### **6.14.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include the review of selected technologies for expedited remedial actions on an as-needed basis.

### **6.14.2 Rationale**

It is desirable to expedite evaluation of remedial technologies at Fort Holabird DIS in order to facilitate the property transfer process.

### **6.14.3 Status/Strategy**

Because there are no BCT action items for review of technologies, there is no strategy.

## **6.15 HOT SPOT REMOVALS**

This section summarizes unresolved issues pertaining to the removal of hot spots. As defined in the DoD guidance, this review item involves implementation of rapid removal of "hot spots" while investigation continues.

### **6.15.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include the review of identified hot spots to determine if removal of the hot spots will expedite cleanup and property transfer efforts. If these efforts will be expedited by a hot spot removal, the BCT may elect to incorporate this approach into the remedial action strategy for the installation.

### **6.15.2 Rationale**

Hot spot removals may expedite any required cleanup efforts and facilitate property transfer. If appropriate, hot spot removals may be used to achieve these goals.

### **6.15.3 Status/Strategy**

Because there are no BCT action items for hot spot removals, there is no strategy. Should information arise which would suggest the need for immediate action in order to protect human health and the environment, the BCT may elect to make decisions regarding the best strategy for removal with USACE and MDE.

## **6.16 IDENTIFICATION OF CLEAN PROPERTIES**

This section summarizes unresolved issues pertaining to identification of clean properties at Fort Holabird DIS. The primary method for identification of clean parcels is the CERFA Letter Report. This report is currently under review. The final determination of the first group of clean parcels will be dependent upon USEPA concurrence with the CERFA parcels identified in the report.

### **6.16.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. As areas at Fort Holabird DIS are remediated, the BCP will be updated to reflect the changes.

### **6.16.2 Rationale**

It is necessary to identify clean properties as part of the property transfer effort.

### **6.16.3 Status/Strategy**

Because there are no BCT action items for the identification of clean properties, there is no strategy. The BCT may use the CERFA Letter Report as the initial identifier of clean parcels.

## **6.17 OVERLAPPING PHASES OF THE CLEANUP PROCESS**

This section summarizes unresolved issues pertaining to potential overlap of cleanup process phases.

### **6.17.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include BCT review of the remedial design to evaluate where opportunities exist for combining remedial actions in order to eliminate duplication of effort.

### **6.17.2 Rationale**

Overlapping remedial actions can eliminate duplicate efforts and facilitate property transfers.

### **6.17.3 Status/Strategy**

Because there are no BCT action items for overlapping phases of cleanup efforts, there is no strategy.

## **6.18 IMPROVED CONTRACTING PROCEDURES**

This section summarizes unresolved issues pertaining to improved contracting procedures. Efficient and cost effective contracting procedures are necessary to expedite the restoration process.

### **6.18.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time.

### **6.18.2 Rationale**

Timelines in the contracting process are important for expeditiously completing restoration activities.

### **6.18.3 Status/Strategy**

Because there are no BCT action items for improving contracting procedures, there is no strategy. Any unresolved technical issues relative to improving contracting procedures will be addressed in future revisions to this BCP as needed.

## **6.19 INTERFACING WITH THE COMMUNITY REUSE PLAN**

This section summarizes unresolved issues pertaining to the community reuse plan. Interface with the community reuse plan is desirable to expedite the implementation of remedial actions. At this time, the community reuse plan has not been developed for Fort Holabird DIS.

### **6.19.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include the development of a community reuse plan. The BCT may provide support in development and implementation of the plan.

### **6.19.2 Rationale**

Coordination with the community reuse plan contributes to the selection of appropriate cleanup standards and facilitates implementation of remedial alternatives, ultimately resulting in the successful transfer of property.

### **6.19.3 Status/Strategy**

Because there are no BCT action items for interfacing with the community reuse plan, there is no strategy. In the future, the BCT may work to ensure that reuse activities will be compatible with restoration activities.

## **6.20 BIAS FOR CLEANUP INSTEAD OF STUDIES**

This section summarizes unresolved issues pertaining to emphasizing cleanup instead of conducting additional studies. Whenever possible, the BCT may select early cleanup rather than conduct additional studies of potentially contaminated sites. This approach will expedite early achievement of cleanup goals and transfer of property.

### **6.20.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include the BCT, making every effort to implement any necessary remedial technologies as soon as possible to facilitate the transfer of Fort Holabird DIS.

### **6.20.2 Rationale**

Early implementation of remedial alternatives will reduce the need for additional studies of contaminated sites and will accelerate completion of cleanup activities. This acceleration in turn will facilitate property transfer efforts.

### **6.20.3 Status/Strategy**

Because there are no BCT action items for cleanup actions, there is no strategy. In the future, the BCT may elect to promote cleanup instead of studies.

## **6.21 EXPERT INPUT ON CONTAMINATION AND POTENTIAL REMEDIAL ACTIONS**

This section summarizes unresolved issues pertaining to expert input on contamination and potential remedial actions. It is necessary that proper resources are used to evaluate contamination and associated RAs.

### **6.21.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include the BCT utilizing MDE, USEPA, USAEC, and contractors to ensure that the proper resources are used to evaluate contamination and potential remedial actions.

### **6.21.2 Rationale**

The use of several entities involved in the restoration at Fort Holabird DIS promotes an expedited property transfer process.

### **6.21.3 Status/Strategy**

Because there are no BCT action items for expert input, there is no strategy.

## **6.22 PRESUMPTIVE REMEDIES**

This section summarizes unresolved issues pertaining to presumptive remedies. The USEPA has issued guidance on presumptive remedies for a few specific contamination scenarios, e.g., one of the

presumptive remedies for vadose zone volatile organic compound contamination is soil vapor extraction. Some of these presumptive remedies may be applicable to Fort Holabird DIS if contamination scenarios are similar to those in the presumptive remedy guidance.

#### **6.22.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include the BCT considering presumptive remedies to expedite implementation of the installation's RA strategy.

#### **6.22.2 Rationale**

The use of presumptive remedies may potentially hasten the cleanup process by allowing for expedited implementation of cleanup technologies.

#### **6.22.3 Status/Strategy**

Because there are no BCT action items for presumptive remedies, there is no strategy.

### **6.23 PARTNERING (USING INNOVATIVE MANAGEMENT, COORDINATION, AND COMMUNICATING TECHNIQUES)**

This section summarizes unresolved issues pertaining to partnering. Partnering is the process of fostering cooperation and communication between key players in the BRAC process.

#### **6.23.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items may include the BCT actively fostering partnerships with USAEC, the community, and regulatory agencies through scheduled meetings and the document review process.

#### **6.23.2 Rationale**

Close cooperation and coordination between Fort Holabird DIS, USAEC, the community, and regulators helps foster good working relationships and can accelerate implementation of the installation's RA strategy by keeping key players informed of the status of environmental efforts, soliciting their input, and addressing potential concerns in the remediation process.

#### **6.23.3 Status/Strategy**

Because there are no BCT action items for partnering, there is no strategy.

### **6.24 UPDATING THE EBS AND NATURAL/CULTURAL RESOURCES DOCUMENTATION**

This section summarizes unresolved issues pertaining to updating the Fort Holabird DIS EBS and natural and cultural resources documentation. The CERFA Letter Report, including parcel classifications has been updated for use in this document based on the results of ongoing activities at Fort Holabird DIS.

#### **6.24.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future action items include updating the CERFA Letter Report as necessary.

#### **6.24.2 Rationale**

Updates of the CERFA Letter Report are necessary to reflect changes in parcel classification based on completion of RAs. It is anticipated that parcel reclassification will ultimately result in most, if not all, of Fort Holabird DIS becoming eligible for property transfer.



### **6.24.3 Status/Strategy**

Because there are no BCT action items for updating environmental documentation, there is no strategy.

## **6.25 IMPLEMENTING THE POLICY FOR ON-SITE DECISION MAKING**

This section summarizes unresolved issues pertaining to implementing policy for on-site decision making. If decisions leading to investigation, remediation, and transfer of Fort Holabird DIS can be made on site, implementation of the installation-wide RA strategy will be expedited.

### **6.25.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time. Future changes will be reflected here.

### **6.25.2 Rationale**

Close cooperation and coordination between Fort Holabird DIS, USAEC, the community, and regulators helps foster good working relationships and can accelerate implementation of the installation's RA strategy by keeping key players informed of the status of environmental efforts, soliciting their input, and addressing potential concerns in the remediation process.

### **6.25.3 Status/Strategy**

Because there are no BCT action items for on-site decision making, there is no strategy.

## **6.26 STRUCTURAL AND INFRASTRUCTURE CONSTRAINTS TO REUSE**

This section summarizes unresolved issues pertaining to structural and infrastructure constraints to reuse.

### **6.26.1 BCT Action Items**

No BCT action items have been identified at Fort Holabird DIS at this time.

### **6.26.2 Rationale**

Potential structural and infrastructure constraints must be overcome or alternative reuses must be identified, to allow transfer of the Fort Holabird DIS property.

### **6.26.3 Status/Strategy**

Because there are no BCT action items for structural or infrastructure constraints, there is no strategy.

## **6.27 OTHER TECHNICAL REUSE ISSUES TO BE RESOLVED**

At the present time, no other technical reuse issues have been identified.

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**APPENDIX A**  
**FISCAL YEAR FUNDING REQUIREMENTS/COSTS**

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**Table A-1. Projected Restoration Program Cost Requirements**

Program	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Total
Information is not available at this time.						

**Table A-2. Projected Compliance Program Cost Requirements**

Program	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Total
There are no anticipated compliance program costs for Fort Holabird DIS.						

**Table A-3. Projected Natural and Cultural Resources Program Cost Requirements**

Program	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Total
There are no anticipated Natural and Cultural Resources Program costs for Fort Holabird DIS.						

**Table A-4. Projected Total Environmental Program Cost Requirements**

Program	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Total
Information is not available at this time.						

**Table A-5. Historical Expenditure by Site**

Program	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Total
Information is not available at this time.						



This past restoration schedule is unavailable at this time.

**Figure A-1. Past Restoration Schedule**

**APPENDIX B**  
**INSTALLATION ENVIRONMENTAL RESTORATION DOCUMENTS SUMMARY TABLES**

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**Table B-1. Project Deliverables**

Year	Project Title	Report No.	Sites Examined	Deliverable Date/By Whom
1986	Tank Closure Documents	1	Former UST spill area	1986/ MDE
1990	Installation Assessment Army Base Closure Program, Fort Holabird, Baltimore, MD.	2	Installation-wide	1990/ Environmental Photographic Interpretation Center (EPIC)
1990	Internal Environmental Assessment including LBP and Radon Testing	3	Building 320	1990/ Fort Holabird DIS
1991	PCB-contaminated Materials Testing	4	Building 320	1991/ MET Electronic Testing Company, Inc.
1994	Soil Disposal Documents	5	AST spill area	1994/ Cherokee Environmental Group
1995	PA Screenings for Fort Holabird DIS.	6	Building 320	1995/ Fort Meade EMO
1996	Sampling and Analysis Plan, Draft Final Document	7	DIS	1996/ ICF Kaiser Engineers
1997	Project Work Plan, Environmental Sampling Activities	8	DIS	1997/ USACE, Baltimore District
1998	Environmental Baseline Survey, Final Document	9	DIS	1998/ ICF Kaiser Engineers

DIS Defense Investigative Services  
 EMO Environmental Management Office  
 ERM Environmental Resources Management  
 MD Maryland  
 MDE Maryland Department of the Environment  
 PA Preliminary Assessment  
 PUCA Property Underlying Cummins Apartments  
 USACE United States Army Corps of Engineers

**Table B-2. Site Deliverables by Phase \***

Site	EA	EBS	SI	FS	DD	EE/CA	LTM	NFRAP	Close-out
Building 320	2,3,4,6	9							
AST Storage Area	5,7,8	9							
Former UST Storage Area	1,5,7,8	9							
PCB Contamination Area	4,5	9							
Former Mound/ Excavation Trench Area	2,7,8	9							

EA – Environmental Assessment  
EBS – Environmental Baseline Survey  
EE/CA – Engineering Evaluation/Cost Analysis  
DD – Decision Document  
FS – Feasibility Study  
LTM – Long Term Monitoring  
NFRAP – No Further Action Planned  
PUCA Property Underlying Cummins Apartment  
SI – Site Investigation

**Table B-3. Technical Documents/Data Loading Status Summary**

Date	IRP Title	Site/OU	Contractor	Service Center	IRDMIS Status/Other
There are no plans at this time to load the Fort Holabird DIS data into IRDMIS.					

IRDMIS – Installation Restoration Data Management Information System  
IRP – Installation Restoration Program  
OU – Operable Unit

\* The numbers in the body of this table correspond to the deliverables listed in Table B-1.

**APPENDIX C**  
**DECISION DOCUMENT/ROD SUMMARIES**

Decision Documents/ROD summaries have not yet been prepared for Fort Holabird DIS.

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**APPENDIX D**  
**NFRAP SUMMARIES**

Appendix D is not applicable to Fort Holabird DIS at this time.



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**APPENDIX E**  
**CONCEPTUAL MODEL DATA SUMMARIES**

There are no conceptual model data summaries for Fort Holabird DIS at this time.

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**APPENDIX F**  
**ANCILLARY BCP MATERIALS**

There are no ancillary BCP materials at this time.

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